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Mr Richard Solomon
RFI Global Services Limited

Your Reference:

Date: 5 October 2005

Dear Mr Solomon

MANUFACTURER OR ACCREDITED AGENT: Psion Teklogix

ECE REGULATION/EEC DIRECTIVE: R10 &72/245

Job No.	**Vehicle Type/Component**	**Approval No.**	**Index Rev. No.**
EAF067676	8530	10R-023560	Not applicable
" "	" "	e11*72/245*95/54*3560*00	" "

1. This vehicle component has been tested and meets the requirements of the above ECE Regulation/EEC Directive. I enclose a set of approval documents, comprising the approval, test report and your documentation duly authenticated.

2. If you think there are any errors in the enclosed package, please contact Andrew Meadows, telephone 0117 952 4187, e-mail andrew.meadows@vca.gov.uk immediately. Please be aware that from the date of issue we have a three week holding period, any corrections required after this time will need to be corrected via an extension, index revision or correction 1 certificate, as appropriate.

ROAD TRAFFIC ACT 1988 - SECTION 80

3. The Secretary of State for Transport authorises, under section 80 of the Road Traffic Act 1988, the above manufacturer or accredited agent to apply to the motor vehicle part specified, the appropriate mark designated in the Motor Vehicles (Designation of Approval Marks) Regulations 1979, as amended. The conditions attached to this authorisation are set out overleaf.

4. If this approval results in a change being needed to a vehicle information document issued under the goods vehicle or passenger car national type approval scheme, you should notify us (i.e. submit a 'notifiable alteration') as soon as possible, using the address VCA (Whole Vehicle), Room 1.2, The Eastgate Office Centre, Eastgate Road, Bristol BS5 6XX.

5. VCA is continually scrutinising the quality of the service it provides to customers, in order to discover more ways in which the standard can be improved. If you have a specific complaint concerning the way this job has been dealt with, our customer services leaflet gives guidance on the best approach. If you would like a copy, please contact the undersigned.

Yours sincerely

JAMES SIBLEY
Product Certification

INVESTOR IN PEOPLE

POSITIVE ABOUT DISABLED PEOPLE

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Email: paultownend.vca@myjaring.net

VCA China
Beijing
Telephone: +8610 852 830 91/2/3
Fax: +8610 852 830 97

1. CONDITIONS

1.1 This Approval may be withdrawn at any time and while held is subject to the following conditions.

2. CONDITIONS OF MOTOR VEHICLE PARTS

2.1 The holder of this approval shall put the approval mark described in the Motor Vehicles (Designation of Approval Marks) Regulations 1979 as amended only on Motor Vehicle Parts that:

a. have been manufactured, assembled or completed in factories under his control and

b. conform in all material respects with the samples, which were tested before this approval was issued.

2.2 The holder of this approval shall mark his products in the manner set out in the relevant Regulation/Directive as given in the Motor Vehicles (Designation of Approval Marks) Regulations 1979 as amended together with:

a. the approval number allocated by the Secretary of State for Transport.
b. his name or trademark
c. any other markings specified in the appropriate international Regulation

2.3 The holder of this approval shall be prepared at any time to satisfy Department for Transport officials or agents of the Department, that the quality of the part being produced and marked or intended to be by him with the approval marking conforms in all material respects with that of the samples tested as the International Regulation requires.

2.4 The holder of this approval undertakes to admit duly authorised officials or agents of the Department at all reasonable times to any premises in which parts marked or intended to be marked are being manufactured, assembled or stored and to permit any such official or agent to inspect parts and all records relating to them and their production processes.

2.5 This approval may be suspended or withdrawn by the Secretary of State for Transport at any time without any particular length of notice being given and in the event of that being done the holder will absolve the Secretary of State from any claim for damages or compensation.

3. CONDITIONS FOR MOTOR VEHICLES

3.1 The holder of this approval shall put the approval mark described in the Motor Vehicles (Designation of Approval Marks) Regulation 1979 as amended only on Motor Vehicles fitted with Motor Vehicle parts which Motor Vehicles as fitted with such parts conform with the type of Motor Vehicle approved by as on behalf of the Secretary of State for Transport and only on Motor Vehicles that:

a. have been manufactured, assembled or completed in factories under his control and

b. conform in all material respects with the type of Motor Vehicle, which was tested before an approval certificate was issued.

3.2 The holder of this approval shall mark motor vehicles of the type approved. In the matter set out in the relevant Regulation/Directive using the authorised approval mark as given in the Motor Vehicles (Designation of Approval Marks) Regulation 1979 as amended together with the approval number allocated by the Secretary of State for Transport.

3.3 The holder of this approval shall mark Motor Vehicles of the type approved in the manner set out in the relevant Regulation annexed to the United Nations agreement of 1958 as amended using the authorised approval mark which comprises a capital letter E followed by the number 11 within a circle together with the approval number allocated by the Secretary of State for Transport.

3.4 The holder of this approval shall be prepared at any time to satisfy Department for Transport officials or agents of the Department that Motor Vehicles of the type approved which have been produced and marked or that are intended to be marked by him conform in all material respects with the type of vehicle approved.

3.5 The holder of this approval undertakes to admit duly authorised officials or agents of the Department at all reasonable times to any premises in which the Motor Vehicles of the type approved which have been or are intended to be marked are manufactured, assembled or stored and to permit any such official or agent to inspect the Motor Vehicles and all records relating to them and their production processes.

3.6 This approval may be suspended or withdrawn by the Secretary of State for Transport at any time without any particular length of notice given and in the event of that being done the holder will absolve the Secretary of State from any claim for damages or compensation.

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VEHICLE CERTIFICATION AGENCY

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

Rev 1/03

E11

COMMUNICATION CONCERNING THE APPROVAL GRANTED OF A TYPE OF ELECTRICAL/ELECTRONIC SUB-ASSEMBLY (1) WITH REGARD TO REGULATION NO: 10 AS AMENDED BY THE 02 SERIES OF AMENDMENTS

Approval No: 10R-023560

Reason(s) for extension: Not applicable

1. Make (trade name of manufacturer): Psion Teklogix

2. Type and general commercial description(s): Vehicle mount terminal 8530

3. Means of identification of type, if marked on the component: Not applicable

3.1 Location of that marking: Not applicable

4. Category of vehicle: Commercial

5. Name and address of manufacturer:

Psion Teklogix Incorporated
2100 Meadowvale Boulevard
Mississauga
Ontario
L5N 7J9
Canada

6. In the case of components and separate technical units, location and method of affixing of the ECE approval mark: Self-adhesive label on back of the unit

E4 VCA 05-Oct-2005 UK APPROVAL AUTHORITY

7. Address(es) of assembly plant(s): See section 5

8. Additional information (where applicable): See Appendix

9. Technical service responsible for carrying out the tests: RFI Global Services Limited

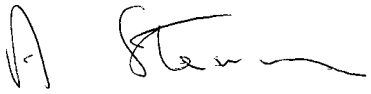
10. Date of test report: 5 October 2005

11. Number of test report: RFI/EMCE1/RP47590JD01A

12. Remarks (if any): See Appendix

13. Place: BRISTOL

14. Date: 5 OCTOBER 2005

15. Signature: 

A. W. STENNING
Head of Product Certification

16. The index to the information package lodged with the approval authority, which may be obtained on request is attached.

EAF067676

Appendix to Type Approval Communication Certificate No: 10R-023560
concerning the type approval of an electrical/electronic sub-assembly under Regulation No: 10

1. Additional information

1.1. Electrical system rated voltage: Plug in either 12V or 24V battery, negative ground

1.2 This ESA can be used on any vehicle type with the following restrictions: To be fitted to commercial vehicles with a system voltage within 1.1 above, negative earth

1.2.1 Installation conditions, if any: See manufacturer's instructions

1.3 This ESA can be used only on the following vehicle types: Not applicable

1.3.1 Installation conditions, if any: Not applicable

1.4 The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from Annex 9): Not applicable

1.5 Approved/accredited laboratory (for the purpose of this Regulation) responsible for carrying out the test: RFI Global Services Limited

2. Remarks: None

(1) Delete where inapplicable

VCA 05-Oct-2005 UK APPROVAL AUTHORITY

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Bristol BS5 6XX
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VEHICLE CERTIFICATION AGENCY

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY Rev 1/03

COMMUNICATION CONCERNING THE APPLICATION OF THE COUNCIL DIRECTIVE OF 20 JUNE 1972 ON THE APPROXIMATION OF THE LAWS OF THE MEMBER STATES RELATING TO A TYPE OF COMPONENT WITH REGARD TO RADIO INTERFERENCE SUPPRESSION (72/245/EEC) AS LAST AMENDED BY 95/54/EC

Type Approval No: e11*72/245*95/54*3560*00

Reason for Extension: Not applicable

SECTION I

0.1 Make (trade name of manufacturer): Psion Teklogix

0.2 Type and general commercial description(s): Vehicle mount terminal 8530

0.3 Means of identification of type, if marked on the component: Not applicable

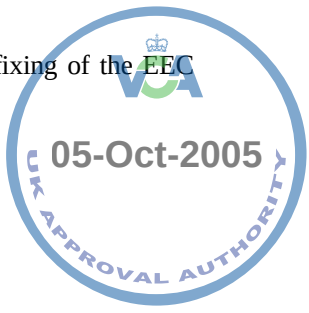
0.3.1 Location of that marking: Not applicable.

0.4 Category of vehicle(2): Not applicable

0.5 Name and address of manufacturer:

Psion Teklogix Incorporated
2100 Meadowvale Boulevard
Mississauga
Ontario
L5N 7J9
Canada

0.7 In the case of components and separate technical units, location and method of affixing of the EEC type-approval mark: Self adhesive label on back of the unit



0.8 Address(es) of assembly plant(s): As section 0.5 above

SECTION II

1. Additional information (where applicable): See Appendix 1

2. Technical service responsible for carrying out the tests: RFI Global Services Limited

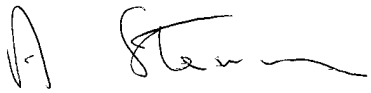
3. Date of test report: 5 October 2005

4. Number of test report: RFI/EMCE1/RP47590JD01A

5. Remarks (if any): See Appendix 2

6. Place: BRISTOL

7. Date: 5 OCTOBER 2005

8. Signature: 

A. W. STENNING
Head of Product Certification

9. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

EAF067676

APPENDIX

to EEC Type Approval Certificate No: e11*72/245*95/54*3560*00
concerning the type approval of an electric/electronic sub-assembly with
regard to Directive 72/245/EEC as last amended by Directive 95/54/EC

1. Additional information:

1.1 Electrical system rated voltage: Plug in either 12V or 24V battery

1.2 This ESA can be used on any vehicle type with the following restrictions: To be fitted to commercial vehicles with a system voltage within 1.1 above, negative earth

1.2.1 Installation conditions, if any: See manufacturer's instructions

1.3 This ESA can only be used on the following vehicle types: Not applicable

1.3.1 Installation conditions, if any: Not applicable

1.4 The specific test method(s) used and the frequency ranges covered to determine immunity were: Not applicable

1.5 Approved/recognised laboratory (for the purpose of this Directive) responsible for carrying out the test: RFI Global Services Ltd

5. Remarks: None

* *Delete as applicable*

(1) *If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document/type-approval certificate, such characters shall be represented in the documentation by the symbol `?' (e.g. ABC??123??).*

(2) *As defined in Annex II A to Directive 70/156/EEC.*

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VEHICLE CERTIFICATION AGENCY

APPROVAL NUMBER: e11*72/245*95/54*3560*00

INFORMATION PACKAGE CONTENTS

INDEX

REVISION NUMBER: Not applicable

Total number of sheets:	94 (Ninety four)
Number of separate drawings:	0 (Nil)
Number of separate photographs:	0 (Nil)

Reasons for Revision: Not applicable

EAF067676

Revision date
&
Office stamp

05-Oct-2005
UK APPROVAL AUTHORITY

TABLE OF CONTENTS

VCA Job Number: EAF067676

EUT: Vehicle Mount Terminal 8530

Section 1). General Information

Section 2). Appendix 1: Identification of the ESA chosen to represent the type.

Section 3). Appendix 2: RFI Test Report RFI/EMCE1/RP47590JD01A

RFI Global Services Ltd
Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number:2117901

VCA
05-Oct-2005
UK APPROVAL AUTHORITY

INFORMATION DOCUMENT RELATING TO VCA JOB NUMBER EAF067676 RELATING TO TYPE APPROVAL OF AN ESA WITH RESPECT TO ELECTROMAGNETIC COMPATIBILITY (72/245/EEC) AS LAST AMENDED BY 95/54/EC.

Vehicle Mount Terminal 8530

0. GENERAL

0.1 Make (trade name of manufacturer):

Psion Teklogix

0.2 Type and general commercial description (s):

Vehicle Mount Terminal 8530

0.3 Means of identification of type, if marked on the component/~~separate technical unit:~~

Not Applicable.

0.3.1 Location of that marking:

Not Applicable.

0.5 Name and address of manufacturer:

Psion Teklogix
2100 Meadowvale Blvd.
Mississauga, ON, L5N7J9 Canada

0.5.1 Name and address of manufacturer's representative:

N/A

0.7 Location and method of affixing of the EEC approval mark:

Self-adhesive label on back of the unit

0.8 Address (es) of assembly plant (s):

Psion Teklogix
2100 Meadowvale Blvd.
Mississauga, ON, L5N7J9 Canada

1. This ESA shall be approved as a Component / STU.

Component

2. Any restrictions of use and conditions for fitting:

The restrictions for use as regards this application are the test configuration used during the test. Any deviation from this configuration may compromise the EMC performance of the system.

Appendix 1

The ESA chosen to represent the type: Vehicle Mount Terminal 8530
Further details about the equipment under test, accessories, support equipment and interconnection cables are provided in RFI test report serial number RFI/EMCE1/RP47590JD01A, which is enclosed in Appendix 2 of this document.

This Appendix (Appendix 1) contains the following:-

Documentation Supplied By The Manufacturer

1. BOM
2. Circuit Diagram
3. Circuit Layouts
4. Display Manual

These pages are not included in the total number of pages for this document.

2100 Meadowvale Blvd., Mississauga ON, CANADA, L5N 7J9 (905) 813-9900

Project Information

Compile Date 07/19/2005
Print Date: 07/19/2005

Project Number:	090183
Project Name:	8525/30 Vehicle Mount Terminal
Project Engineer	Steve Ponikvar

Assembly Information

Assembly Number:	**1008015-002**	Revision	**A5**
Assembly Description	**8525/30 Main Logic Board**		
Schematic Technical Lead	Denis Leblanc		

Obsolescence:

The information in this document is only considered valid for the current revision, prior to formal release to production. Psion Teklogix Engineering is responsible to ensure all appropriate suppliers are notified when a new engineering release is available. Any costs incurred by the use of this document for production purposes after notification of obsolecense, or after formal release is the responsibility of the supplier.

Confidentiality:

The information contained in this document is confidential and the exclusive intellectual property of Psion Teklogix. It may only be used for the purpose for which it is supplied and must not be reproduced, or disseminated to third parties by any means in whole or in part, without the express written permission of Psion Teklogix.

Device	Qty	Description	Manufacturer	Part Number
1002023	1	SOFTWARE 8525/30 CE V4.2 OTT IMAGE	Undefined	Undefined
	Process Code:	EFF	BAAN Description Line 1:	SOFTWARE IMAGE CE_4.2 OTT 8525		
	Product Type:	VK0	BAAN Description Line 2:			
	Item Group	S/W				
	Reference Designators:	S/W 3				
1002024	1	SOFTWARE 8525/30 PCON IMAGE	Undefined	Undefined
	Process Code:	EFF	BAAN Description Line 1:	SOFTWARE IMAGE PCON 8525 MOT		
	Product Type:	VK0	BAAN Description Line 2:	MOTOROLA FORMAT		
	Item Group	S/W				
	Reference Designators:	S/W 1				
1002025	1	SOFTWARE 8525/30 BOOST IMAGE	Undefined	Undefined
	Process Code:	EFF	BAAN Description Line 1:	SOFTWARE IMAGE BOOST 8525		
	Product Type:	VK0	BAAN Description Line 2:			
	Item Group	S/W				
	Reference Designators:	S/W 2				
1008010	0	DOCUMENT ARTWORK PCB 8525/30 MAIN LOGIC BOARD	UNDEFINED	Undefined
	Process Code:	ART	BAAN Description Line 1:	DOC ARTWORK MLB 8525/30		
	Product Type:	VK0	BAAN Description Line 2:	MAIN_LOGIC_BOARD		
	Item Group	DOC				
	Reference Designators:	DOC1				
1008011	1	PCB 8525/30 MAIN LOGIC BOARD	UNDEFINED	Undefined
	Process Code:	CSP	BAAN Description Line 1:	PCB MAIN LOGIC BOARD 8525/30		
	Product Type:	VK0	BAAN Description Line 2:			
	Item Group	PCB				
	Reference Designators:	PCB1				
1008013	0	DOCUMENT PCB ASSEMBLY 8525/30 MAIN LOGIC BOARD	UNDEFINED	Undefined
	Process Code:	REF	BAAN Description Line 1:	DOC FAB_DWG MLB 8525/30		
	Product Type:	VK0	BAAN Description Line 2:	MAIN_LOGIC_BOARD		
	Item Group	DOC				
	Reference Designators:	DOC2				

Device	Qty	Description	Manufacturer	Part Number
1008014	0	DOCUMENT SCHEMATIC 8525/30 MAIN LOGIC BOARD	UNDEFINED	Undefined
	Process Code: SCH	BAAN Description Line 1: DOC SCHEMATIC MLB 8525/30		
	Product Type: VK0	BAAN Description Line 2: MAIN_LOGIC_BOARD		
	Item Group DOC			
	Reference Designators: DOC3			
1008087	2	LABEL BLANK PCA 0.25"X1.0" WHITE MYLAR 0.002" THICK	UNDEFINED	Undefined
	Process Code: CMP	BAAN Description Line 1: LABEL BLANK PCA 0.25"X1.0"		
	Product Type: XE0	BAAN Description Line 2: WHITE MYLAR 0.002" THICK		
	Item Group LBL			
	Reference Designators: LBL2,LBL3			
1008211	4	IC MEMORY SDRAM 256MBIT 4M X 16 X 4BANKS -25°C TO 85°C SCD SCREENED TO -40°C CSP54	SEE SCD 1008211	SEE SCD 1008211
	Process Code: CMP	BAAN Description Line 1: IC SDRAM 256MBIT 54 PIN BOC		
	Product Type: XE0	BAAN Description Line 2: SCREENED TO -40°C		
	Item Group ICT			
	Reference Designators: U25, U26, U30, U40			
1010084	0	DOC SERIAL NUMBER CODING INST	UNDEFINED	Undefined
	Process Code: REF	BAAN Description Line 1: DOC SERIAL NUMBER CODING INST		
	Product Type: XD0	BAAN Description Line 2:		
	Item Group DOC			
	Reference Designators: DOC5			
7000530-200	0	DOCUMENT 8525 MLB PRODUCTION FUNCTIONAL TEST SPECIFICATION	UNDEFINED	Undefined
	Process Code: TSP	BAAN Description Line 1: DOC TEST_SPEC FUNC MLB 8525		
	Product Type: VK0	BAAN Description Line 2: TEST SPECIFICATION		
	Item Group DOC			
	Reference Designators: DOC4			
9000494	1	IC TINYLOGIC 1-OF-2 NON-INVERTING MULTIPLEXER	FAIRCHILD	NC7SZ157P6X
			ON SEMICONDUCTOR	NLA5B3157DFT2
	Process Code: CMP	BAAN Description Line 1: IC LOGIC MULTIPLEXER	PERICOM	PI5A3157CX
	Product Type: XE0	BAAN Description Line 2: NON INVERTING SOT23-5		
	Item Group ICT			
	Reference Designators: U23			

Device	Qty	Description				Manufacturer	Part Number
9000501	9	TRANSISTOR MOSFET P-CHAN ENHANCEMENT 360MW 40V 6R_RDS SOT-23				FAIRCHILD	BSS84
						PHILIPS	BSS84
	Process Code:	CMP	BAAN Description Line 1:	TRANSISTOR FET P-CHAN 50V		INFINEON	BSS84P
	Product Type:	XE0	BAAN Description Line 2:	SMT SOT-23 350MW			
	Item Group	XTR					
	Reference Designators:	Q13, Q34, Q35, Q44, Q52, Q55, Q56, Q57, Q60					
9000515	8	IC BUFFER WITH 3-STATE OUTPUT ACTIVE LOW ENABLE SC70 PACKAGE				FAIRCHILD	NC7SZ125P5X
						ON SEMICONDUCTOR	M74VHC1G125DFT?
	Process Code:	CMP	BAAN Description Line 1:	IC BUFFER TRI-STATE OUTPUT		TOSHIBA	TC7SZ125FU
	Product Type:	XE0	BAAN Description Line 2:	SC70 PACKAGE		PERICOM	PI74ST1G125CX
	Item Group	ICT					
	Reference Designators:	U41, U58, U59, U60, U61, U62, U63, U67					
9000520	8	CAPACITOR CERAMIC SMT 1210 X5R 6.3V 22UF 10% 10MOHM_ESR				MURATA	GRM32DR60J226KA?
						AVX	12106D226KAT?A
	Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 6.3V 22UF 10%		JOHANSON	6R3S41X226KV4?
	Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 1210 X5R		TAIYO-YUDEN	JMK325BJ226KM-T
	Item Group	CAP				VENKEL	C1210X5R100-226KN??
	Reference Designators:	C120, C121, C122, C123, C124, C125, C126, C311					
9000522	1	INDUCTOR SMT POWER 10UH 20% SHIELDED 3.4A 0R022DC				TDK	SLF12555T-100M3R4
	Process Code:	CMP	BAAN Description Line 1:	INDUCTOR SMT 10UH 20% SHIELDED			
	Product Type:	XE0	BAAN Description Line 2:	3.4A			
	Item Group	IND					
	Reference Designators:	L2					
9000528	1	CAPACITOR CERAMIC SMT 0402 COG 25V 220PF ±5%				MURATA	GRP1556C1E221JA01?
						VENKEL	C0402COG500-221JN ?
	Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 25V 220PF 5%		KEMET	C0402C221J3GAC
	Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 0402 COG		AVX	04023A221JAT?A
	Item Group	CAP				CALCHIP	GMC04CG221J25NT
	Reference Designators:	C144					
9000532	1	RESISTOR SMT 0402 1/16W 105K OHM ±1%				VISHAY	CRCW04021053F?
						AVX KYOCERA	CR05-1053F-?
	Process Code:	CMP	BAAN Description Line 1:	RESISTOR 1/16W 105K OHM 1%		KOA	RK73H1E?1053F
	Product Type:	XE0	BAAN Description Line 2:	SMT 0402		ROHM	MCR01?F1053
	Item Group	RES				PANASONIC	ERJ2RKF1053?
	Reference Designators:	R147				SAMSUNG	RC1005F1053?

VCA 05-Oct-2005 UK APPROVAL AUTHORITY

Device	Qty	Description	Manufacturer	Part Number
9000533	1	RESISTOR SMT 0402 1/16W 63K4 OHM ±1%	VISHAY	CRCW04026342F?
			AVX KYOCERA	CR05-6342F-?
		Process Code: CMP BAAN Description Line 1: RESISTOR 1/16W 63K4 OHM 1%	KOA	RK73H1E?6342F
		Product Type: XE0 BAAN Description Line 2: SMT 0402	ROHM	MCR01?F6342
		Item Group RES	PANASONIC	ERJ2RKF6342?
		Reference Designators: R18	SAMSUNG	RC1005F6342?
9000537	1	TRANSISTOR MOSFET DUAL POWER N_CHAN LOGIC DRIVE 2.1NC 3.5A 30V R140_RDS SO8	FAIRCHILD	FDS6961A
		Process Code: CMP BAAN Description Line 1: TRANSISTOR DUAL N_CH FET 30V		
		Product Type: XE0 BAAN Description Line 2: 3.5A		
		Item Group XTR		
		Reference Designators: Q50		
9000540	3	RESISTOR SMT 1206 0.25W 0R015 ±1%	DALE	WSL1206 0.015 OHMS 1% R86
		Process Code: CMP BAAN Description Line 1: RESISTOR 1/4W 0R015 OHM 1%		
		Product Type: XE0 BAAN Description Line 2: SMT 1206		
		Item Group RES		
		Reference Designators: R100, R151, R152		
9000549	1	RESISTOR SMT 0402 1/16W 576K OHM ±1%	VISHAY	CRCW04025763F?
			AVX KYOCERA	CR05-5763F-?
		Process Code: CMP BAAN Description Line 1: RESISTOR 1/16W 576K OHM 1%	KOA	RK73H1E?5763F
		Product Type: XE0 BAAN Description Line 2: SMT 0402	VENKEL	CR0402-16W-5763FT
		Item Group RES	PANASONIC	ERJ-2RKF5763X
		Reference Designators: R39	SAMSUNG	RC1005F5763?
9000552	1	RESISTOR SMT 2512 1W 0R039 ±1%	DALE	WSL2512 0.039OHMS 1%
			AVX KYOCERA	LR63-R039-F-?
		Process Code: CMP BAAN Description Line 1: RESISTOR 1W 0R039 OHM 1%		
		Product Type: XE0 BAAN Description Line 2: SMT 2512		
		Item Group RES		
		Reference Designators: R17		
9000554	2	IC ANALOG MULTIPLEXER DUAL 4-CHANNEL 100 OHM MAX	VISHAY SILICONIX	DG409DY-T1
			INTERSIL	DG409DY
		Process Code: CMP BAAN Description Line 1: IC ANALOG MULTIPLEXER		
		Product Type: XE0 BAAN Description Line 2:		
		Item Group ICT		
		Reference Designators: U17, U18		

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Device	Qty	Description	Manufacturer	Part Number
9000558	1	DIODE SMT POWER SCHOTTKY 40V 2A	ON SEMI	MBRS2040LT3
	Process Code: CMP	BAAN Description Line 1: DIODE SMT SCHOTTKY 40V 2A		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group DIO			
	Reference Designators: D26			
9000559	6	DIODE ZENER 18V 225MW SOT23	ONSEMI	MMBZ5248BLT1
			GENERAL SEMI	MMBZ5248
	Process Code: CMP	BAAN Description Line 1: DIODE SMT ZENER 18V SOT23		
	Product Type: XE0	BAAN Description Line 2: 225MW		
	Item Group DIO			
	Reference Designators: D10, D50, D6, D7, D8, D9			
9000568	1	IC SMBUS I2C ACCELERATOR 2.7V TO 6V	LINEAR TECHNOLOGY	LTC1694IS5
	Process Code: CMP	BAAN Description Line 1: IC SMBUS I2C ACCELERATOR		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group ICT			
	Reference Designators: U12			
9000585	1	CAPACITOR CERAMIC SMT COG 0402 50V 4.7±2.5PF	VENKEL	C0402COG500-4R7CNE
			AVX	04025A4R7DAT?A
	Process Code: CMP	BAAN Description Line 1: CAPACITOR 50V 4.7±2.5PF	CALCHIP	GMC04CG4R7D50NT
	Product Type: XE0	BAAN Description Line 2: CERAMIC SMT 0402 COG		
	Item Group CAP			
	Reference Designators: C146			
9000586	1	RESISTOR SMT 0402 1/16W 4R02 OHM ±1%	VENKEL	CR0402-16W-4R02FT
			VISHAY	CRCW04024R02F?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 4R02 OHM 1%	AVX KYOCERA	CR05-4R02F-?
	Product Type: XE0	BAAN Description Line 2: SMT 0402	KOA	RK73H1E?4R02F
	Item Group RES		SAMSUNG	RC1005F4R02?
	Reference Designators: R162		ROHM	MCR01?F4R02
9000587	1	RESISTOR SMT 0402 1/16W 29K4 OHM ±1%	VISHAY	CRCW04022942F?
			AVX KYOCERA	CR05-2942F-?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 29K4 OHM 1%	KOA	RK73H1E?2942F
	Product Type: XE0	BAAN Description Line 2: SMT 0402	VENKEL	CR0402-16W-2942FT
	Item Group RES		PANASONIC	ERJ2RKF2942?
	Reference Designators: R37		SAMSUNG	RC1005F2942?

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Device	Qty	Description	Manufacturer	Part Number
9000906	1	CAPACITOR 4F -10+30%TOL 2.5V 0R400ESR	TECATE	PB-2R5/040Q#1
		Process Code: CMP BAAN Description Line 1: CAPACITOR ELEC THRUHOLE 4F		
		Product Type: XE0 BAAN Description Line 2: +30/-10% 0R4ESR 2V5		
		Item Group CAP		
		Reference Designators: C1126		
9000926	1	RESISTOR SMT 0402 1/16W 90K9 OHM ±1%	VISHAY	CRCW04029092F?
			AVX KYOCERA	CR05-9092F-?
		Process Code: CMP BAAN Description Line 1: RESISTOR 1/16W 90K9 OHM 1%	KOA	RK73H1E?9092F
		Product Type: XE0 BAAN Description Line 2: SMT 0402	VENKEL	CR0402-16W-9092FT
		Item Group RES	PANASONIC	ERJ2RKF9092?
		Reference Designators: R141	SAMSUNG	RC1005F9092?
9000928	4	RESISTOR SMT 0402 1/16W 3K32 OHM ±1%	VISHAY	CRCW04023321F?
			KOA	RK73H1E?3321F
		Process Code: CMP BAAN Description Line 1: RESISTOR 1/16W 3K32 OHM 1%	VENKEL	CR0402-16W-3321FT
		Product Type: XE0 BAAN Description Line 2: SMT 0402	PANASONIC	ERJ2RKF3321?
		Item Group RES	SAMSUNG	RC1005F3321?
		Reference Designators: R167, R168, R169, R170		
9000932	1	IC 4X SPST ANALOG SWITCH 7 OHMS MAX +/-15V SPECIFIED RANGE	ANALOG DEVICES	ADG451BR
		Process Code: CMP BAAN Description Line 1: IC ANALOG SWITCH 4XSPST		
		Product Type: XE0 BAAN Description Line 2:		
		Item Group ICT		
		Reference Designators: U2		
9000933	2	IC INTERFACE TRANSCEIVER RS232D 2TX_2RX 120KBPS TSSOP20	SIPEX	SP3223EEY
			INTERSIL	ICL3223EIV
		Process Code: CMP BAAN Description Line 1: IC RS232 TRANSCEIVER 2TX_2RX		
		Product Type: XE0 BAAN Description Line 2: 120KBPS		
		Item Group ICT		
		Reference Designators: U42, U43		
9000940	4	ICT, SINGLE COMPARATOR, SUPPLY 2V-8V,PUSH-PULL OUTPUT,SOT23-5	NATIONAL SEMICOND	LMC7215IM5
		Process Code: CMP BAAN Description Line 1: ICT, COMPARATOR, 2-8V,SOT23-5		
		Product Type: XE0 BAAN Description Line 2:		
		Item Group ICT		
		Reference Designators: U3, U6, U7, U8		

Device	Qty	Description	Manufacturer	Part Number
9000958	1	RESISTOR SMT 0402 1/16W 26K7 OHM ±1%	VISHAY	CRCW04022672F?
			AVX KYOCERA	CR05-2672F-?
		Process Code: CMP BAAN Description Line 1: RES SMT 0402 1/16W 26K7 OHM 1%	KOA	RK73H1E?2672F
		Product Type: XE0 BAAN Description Line 2:	ROHM	MCR01?F2672
		Item Group RES	SAMSUNG	RC1005F2672?
		Reference Designators: R347		
9000963	2	IC TINY LOGIC HST 2-INPUT AND GATE	FAIRCHILD	NC7ST08P5X
			ON SEMICONDUCTOR	NL17SZ08DFT2
		Process Code: CMP BAAN Description Line 1: IC TINYLOGIC 2-INPUT AND GATE	TOSHIBA	TC7SET08FU
		Product Type: XE0 BAAN Description Line 2:		
		Item Group ICT		
		Reference Designators: U31, U32		
9000979	2	IC PC CARD POWER SWITCH 3/5V TSSOP8	ANALOGIC TECH	AAT4650IHS
		Process Code: CMP BAAN Description Line 1: IC PC CARD PWR SWITCH		
		Product Type: XE0 BAAN Description Line 2: 5V/3V TSSOP8		
		Item Group ICT		
		Reference Designators: U48, U49		
9000983	1	IC ANALOG REGULATOR SWITCHING STEP_DOWN DUAL 2-PHASE SYNC CSP PKG	LINEAR TECHNOLOGY	LTC3728EUH
		Process Code: CMP BAAN Description Line 1: IC REG SWITCHING STEP DWN DUAL		
		Product Type: XE0 BAAN Description Line 2:		
		Item Group ICT		
		Reference Designators: U16		
9000988	2	SUPPRESSOR UNIDIRECTIONAL4X6V1 ARRAY 90PF 15W SOT323	ON SEMICONDUCTOR	MSQA6V1W5T2
		Process Code: CMP BAAN Description Line 1: SUPPRESSOR QUAD 6V1 90PF		
		Product Type: XE0 BAAN Description Line 2: SOT323		
		Item Group TRS		
		Reference Designators: DN2, DN3		
9000989	10	FILTER EMI 25V 6A LC TYPE SMT - 40 TO 85C	MURATA	NEF13PT222Z1E9
		Process Code: CMP BAAN Description Line 1: FILTER SMT EMI 25V 6A		
		Product Type: XE0 BAAN Description Line 2: LC TYPE		
		Item Group FIL		
		Reference Designators: FL1, FL10, FL12, FL13, FL14, FL15, FL2, FL3, FL6, FL9		

Device	Qty	Description	Manufacturer	Part Number
9001544	1	CON SD CARD/MMC CONNECTOR, MANUAL INSERTION WITH CARD DETECT AND WRITE PROTECT SWITCHES	ELCO	10-5738-009-783-862
	Process Code: CMP	BAAN Description Line 1: CONNECTOR SD I/O		
	Product Type: XE0	BAAN Description Line 2: MANUAL INSERTION		
	Item Group CON			
	Reference Designators: P1			
9001547	4	SUPPRESSOR 160V MAX 0402 PKG	LITTLEFUSE	V0402MHS12
	Process Code: CMP	BAAN Description Line 1: SUPPRESSOR SMT 160V 0402		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group TRS			
	Reference Designators: TVS1, TVS2, TVS3, TVS4			
9001558	1	IC LINEAR SUPERVISOR 1V25 VOLTAGE SENSE WATCHDOG INTERRUPT & MASTER RESET	ANALOG DEVICES	ADM705AR
			TEXAS INSTRUMENTS	TPS3705-50D
	Process Code: CMP	BAAN Description Line 1: IC MICROPROCESSOR SUPERVISOR	MAXIM	MAX705ESA
	Product Type: XE0	BAAN Description Line 2: 1V25 WATCHDOG MANUAL RESET		
	Item Group ICT			
	Reference Designators: U55			
9001562	1	IC DISPLAY AND PERIPHERAL CONTROLLER CMOS MQ1188 144-PIN ECSP INDUSTRIAL TEMP	MEDIAQ	MQ1188-GBE
	Process Code: CMP	BAAN Description Line 1: IC LCD CONTROLLER CMOS BGA144		
	Product Type: XE0	BAAN Description Line 2: INDUSTRIAL TEMP		
	Item Group ICT			
	Reference Designators: U37			
9001574	2	RESISTOR SMT 0402 1/16W 16K2 OHM ±1%	VISHAY	CRCW04021622F?
			AVX KYOCERA	CR05-1622F-?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 16K2 OHM 1%	KOA	RK73H1E?1622F
	Product Type: XE0	BAAN Description Line 2: SMT 0402	ROHM	MCR01?F1622
	Item Group RES		PANASONIC	ERJ2RKF1622?
	Reference Designators: R1, R2		SAMSUNG	RC1005F1622?
9001577	1	RESISTOR SMT 0402 1/16W 280K OHM ±1%	VISHAY	CRCW04022803F?
			AVX KYOCERA	CR05-2803F-?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 280K OHM 1%	KOA	RK73H1E?2803F
	Product Type: XE0	BAAN Description Line 2: SMT 0402	ROHM	MCR01?F2803
	Item Group RES		SAMSUNG	RC1005F2803?
	Reference Designators: R390			

Device	Qty	Description	Manufacturer	Part Number
9001579	2	RESISTOR SMT 0402 1/16W 137K OHM ±1%	VISHAY	CRCW04021373F?
			AVX KYOCERA	CR05-1373F-?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 137K OHM 1%	KOA	RK73H1E?1373F
	Product Type: XE0	BAAN Description Line 2: SMT 0402	ROHM	MCR01?F1373
	Item Group RES		PANASONIC	ERJ2RKF1373?
	Reference Designators: R42, R43		SAMSUNG	RC1005F1373?
9001581	4	CAPACITOR CERAMIC SMT 0402 COG 50V 33P ±5%	MURATA	GRM36COG330J050AD
			AVX	4025A330JAT2A
	Process Code: CMP	BAAN Description Line 1: CAPACITOR 50V 33PF 5%	VENKEL	C0402COG500-330J
	Product Type: XE0	BAAN Description Line 2: SMT 0402 COG	KEMET	C0402C330J5GAC
	Item Group CAP			
	Reference Designators: C106, C60, C61, C62			
9001584	3	IC ULTRA LOW POWER 2-INPUT AND GATE	FAIRCHILD	NC7SP08P5X
	Process Code: CMP	BAAN Description Line 1: IC 2-INPUT AND GATE		
	Product Type: XE0	BAAN Description Line 2: ULTRA LOW POWER		
	Item Group ICT			
	Reference Designators: U10, U20, U71			
9001588	2	CAPACITOR CERAMIC SMT 0603 COG 50V 560P ±5%	VENKEL	C0603COG500-561JN?
			AVX	06035A561JAT?A
	Process Code: CMP	BAAN Description Line 1: CAPACITOR 50V 560PF 5%	MURATA	GRM1885C1H561J??
	Product Type: XE0	BAAN Description Line 2: SMT 0603 COG		
	Item Group CAP			
	Reference Designators: C132, C133			
9001596	2	CRYSTAL SMD 32.768KHZ THERMOPLASTIC 20PPM CLOAD=12.5PF INDUSTRIAL TEMP	FOX	FSR327
			SEIKO-EPSON	MC-156-32.768K-A3
	Process Code: CMP	BAAN Description Line 1: CRYSTAL SMD 32.768KHZ 20PPM	SARONIX	32S12C
	Product Type: XE0	BAAN Description Line 2:	ABRACON CORP.	ABS25-32.768-12-D-3-T
	Item Group CRY			
	Reference Designators: X4, X5			
9001597	1	IC LOW-VOLTAGE QUADRUPLE FET BUS SWITCH	TI	SN74CBTLV3126DGVR
	Process Code: CMP	BAAN Description Line 1: IC BUS SWTICH QUAD LOW VLTG		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group ICT			
	Reference Designators: U29			

Device	Qty	Description	Manufacturer	Part Number
9001598	1	IC LINEAR LDO REGULATOR 1.5V 150MA LOW_NOISE 85UA QUIESCENT SOT23-5	MICREL	MIC5247-1.5BM5
	Process Code:	CMP	BAAN Description Line 1:	IC LDO REGULATOR 1.5V 150MA		
	Product Type:	XE0	BAAN Description Line 2:			
	Item Group	ICT				
	Reference Designators:	U11				
9001599	1	IC LINEAR LDO REGULATOR 3.3V WITH RESET OUTPUT	SEIKO	S-873325BUP-ALA-T2
	Process Code:	CMP	BAAN Description Line 1:	IC LDO REGULATOR 3V3		
	Product Type:	XE0	BAAN Description Line 2:	RESET OUTPUT		
	Item Group	ICT				
	Reference Designators:	U52				
9001802	2	SCREW M2 X 10 CHEESE PHIL	SPAENAUR	425-034
	Process Code:	CMP	BAAN Description Line 1:	SCREW M2 X 10 CHEESE PHIL		
	Product Type:	XM0	BAAN Description Line 2:			
	Item Group	SCR				
	Reference Designators:	SCR5,SCR6				
9001852	1	INDUCTOR SMT POWER 33UH 20% SHIELDED 1A9 0R056DC	TOKO	892NCS-330M=P3
	Process Code:	CMP	BAAN Description Line 1:	INDUCTOR SMT 33UH 20% SHIELDED		
	Product Type:	XE0	BAAN Description Line 2:	1.9A		
	Item Group	IND				
	Reference Designators:	L22				
9001860	1	IC ANALOG BATTERY CHARGER TSOP 24	TEXAS INSTRUMENTS	BQ24702PW
	Process Code:	CMP	BAAN Description Line 1:	IC ANALOG BATTERY CHARGER		
	Product Type:	XE0	BAAN Description Line 2:			
	Item Group	ICT				
	Reference Designators:	U36				
9001865	1	IC SPREAD SPECTRUM MTIPR CLK	INTEGRATED CIRCUIT	MK1714-01RI?
	Process Code:	CMP	BAAN Description Line 1:	IC SPREAD SPECTRUM MTIPR CLK		
	Product Type:	XE0	BAAN Description Line 2:	MULTIPLIER CLOCK 20-PIN SSOP		
	Item Group	ICT				
	Reference Designators:	U66				

Device	Qty	Description	Manufacturer	Part Number
9002773	1	IC DISPLAY CONTROLLER CMOS S1D13806 144 TQFP INDUSTRIAL TEMP	EPSON	S1D13806F00A100
	Process Code:	CMP	BAAN Description Line 1:	IC LCD CONTROLLER CMOS TQFP144		
	Product Type:	XE0	BAAN Description Line 2:	INDUSTRIAL TEMP		
	Item Group	ICT				
	Reference Designators:	U13				
9002922	1	CONNECTOR PLUG B-B VERT DUAL 120PIN SMT GRID 0.635 7MM HIGH	MOLEX	53481-1209
	Process Code:	CMP	BAAN Description Line 1:	CONNECTOR PLUG VERT 120 PIN		
	Product Type:	XE0	BAAN Description Line 2:	DUAL 7MM B-B 0.635MM PITCH		
	Item Group	CON				
	Reference Designators:	J7				
9002929	1	IC DUAL I2C BUFFER FOR SIG OVER CABLE SOT96-1	PHILIPS	P82B96TD
	Process Code:	CMP	BAAN Description Line 1:	IC DUAL I2C BUFFER SOT 96-1		
	Product Type:	XE0	BAAN Description Line 2:	FOR SIGNAL OVER CABLE		
	Item Group	ICT				
	Reference Designators:	U14				
9002930	2	CONNECTOR 24 PIN SMT FFC/FPC BOTTOM CONTACT	HRS	FH12-24S-0.5SH
	Process Code:	CMP	BAAN Description Line 1:	CONNECTOR FFC/FPC 24_PIN 0.5MM		
	Product Type:	XE0	BAAN Description Line 2:	50V 0.4A BOTTOM_CONTACT SMT		
	Item Group	CON				
	Reference Designators:	J6, J8				
9002932	2	TRANSISTOR MOSFET DUAL POWER N_CHAN LOGIC DRIVE 9.0 1NC 6.0A 30V R035_RDS SO8	FAIRCHILD	FDS6912A
	Process Code:	CMP	BAAN Description Line 1:	TRANSISTOR DUAL N_CH FET 30V		
	Product Type:	XE0	BAAN Description Line 2:	6.0A		
	Item Group	XTR				
	Reference Designators:	Q48, Q49				
9002935	1	INDUCTOR SMT POWER 10UH 20% SHIELDED 6.04A	COOPER BUSSMANN	DR127-100
	Process Code:	CMP	BAAN Description Line 1:	INDUCTOR SMT 10UH SHIELDED 6A		
	Product Type:	XE0	BAAN Description Line 2:	20% ISAT 11.2A		
	Item Group	IND				
	Reference Designators:	L1				

Device	Qty	Description	Manufacturer	Part Number
9002936	6	TRANSISTOR MOSFET POWER P_CHAN LOGIC LEVEL 11A -30V R02_RDS SO-8	FAIRCHILD	FDS6675
	Process Code:	CMP	BAAN Description Line 1:	TRANSISTOR P_CH FET -30V -11A		
	Product Type:	XE0	BAAN Description Line 2:	SO-8		
	Item Group	XTR				
	Reference Designators:	Q26, Q27, Q29, Q31, Q33, Q36				
9002940	1	CONNECTOR 10 PIN RA MICRO 3MM	MOLEX	43045-1021
	Process Code:	CMP	BAAN Description Line 1:	CONNECTOR 10 PIN RA MICRO 3MM		
	Product Type:	XE0	BAAN Description Line 2:	MOLEX MICRO FIT 3MM DUAL		
	Item Group	CON				
	Reference Designators:	J4				
9002945	1	CONNECTOR SMT ZIF SINGLE ROW 12PIN 0MM5 VERTICAL WITH FLIP LOCK	HIROSE	FH12-12S-0.5SH
	Process Code:	CMP	BAAN Description Line 1:	CONNECTOR SMT ZIF 12 PIN		
	Product Type:	XE0	BAAN Description Line 2:	0MM5 HORIZONTAL WITH FLIP LOC		
	Item Group	CON				
	Reference Designators:	P2				
9002946	1	CONNECTOR 40 PIN SMT FFC/FPC BOTTOM CONTACT .5MM	HIROSE	FH12-40S-0.5SH
	Process Code:	CMP	BAAN Description Line 1:	CONNECTOR FFC/FPC 40_PIN 0.5MM		
	Product Type:	XE0	BAAN Description Line 2:	50V 0.4A BOTTOM_CONTACT SMT		
	Item Group	CON				
	Reference Designators:	J3				
9002948	1	IC TINY LOGIC HST 2-INPUT EX-OR GATE	FAIRCHILD	NC7S86M5X
	Process Code:	CMP	BAAN Description Line 1:	IC TINYLOGIC 2-INPUT EX-OR GAT		
	Product Type:	XE0	BAAN Description Line 2:	2V TO 6V SOT23		
	Item Group	ICT				
	Reference Designators:	U68				
9002949	2	IC TINY LOGIC HST 2-INPUT NOR GATE	FAIRCHILD	NC7S02M5X
	Process Code:	CMP	BAAN Description Line 1:	IC TINYLOGIC 2-INPUT NOR GATE		
	Product Type:	XE0	BAAN Description Line 2:	2V TO 6V SOT23		
	Item Group	ICT				
	Reference Designators:	U69, U70				

Device	Qty	Description	Manufacturer	Part Number
9002950	4	IC, SOFT START POWER SWITCH 2A SO-8	INTERSIL	ISL6121LIB-T
	Process Code:	CMP	BAAN Description Line 1:	IC POWER SWITCH 2A SOFT START		
	Product Type:	XE0	BAAN Description Line 2:	SO-8		
	Item Group	ICT				
	Reference Designators:	U74, U75, U76, U77				
9002955	1	IC LINEAR LDO REGULATOR 5V 150MA 20UA QUIESCENT	MICREL	MIC5236-5BMM
	Process Code:	CMP	BAAN Description Line 1:	IC LDO 5V 150MA 20UA QUIESC		
	Product Type:	XE0	BAAN Description Line 2:	LINEAR_REGULATOR		
	Item Group	ICT				
	Reference Designators:	U24				
9002961	4	SCREW M2 X 20 PAN HEAD	IRWIN	7985-022-0-S
	Process Code:	CMP	BAAN Description Line 1:	SCREW M2 X 20 PAN HEAD SS		
	Product Type:	XM0	BAAN Description Line 2:			
	Item Group	SCR				
	Reference Designators:	SCR1-SCR4				
9003331	1	IC MCU CMOS M30624FGPGP#D3 256KB FLASH 20KB RAM 10MHZ 2.2_3.6V 100QFP -40°C-85°C	RENESAS	M30624FGPGP-D3C
	Process Code:	CMP	BAAN Description Line 1:	IC MCU CMOS 256K FLASH 20K RAM		
	Product Type:	XE0	BAAN Description Line 2:	10 MHZ -40°C-85°C 2.2_3.6V		
	Item Group	ICT				
	Reference Designators:	U65				
9003332	1	IC FPGA SPARTAN-II XC2S150 260 I/O FG456 -40°C-100°C	XILINX	XC2S150-5 FG456 I
	Process Code:	CMP	BAAN Description Line 1:	IC FPGA SPARTAN-II XC2S150		
	Product Type:	XE0	BAAN Description Line 2:	260 I/O FG456 -40°C-100°C		
	Item Group	ICT				
	Reference Designators:	U19				
9003333	1	IC CPU PXA255 XSCALE MICROARCHITECTURE 32-BIT RISC 400MHZ MBGA256 I TEMP	INTEL	GDPXA255A0E400
	Process Code:	CMP	BAAN Description Line 1:	IC CPU XSCALE 32-BIT RISC		
	Product Type:	XE0	BAAN Description Line 2:	400MHZ MBGA256 I TEMP		
	Item Group	ICT				
	Reference Designators:	U1				

Device	Qty	Description	Manufacturer	Part Number
9003414	1	RESISTOR SMT 0402 1/16W 40K2 OHM ±1%	VISHAY	CRCW04024022F?
			AVX KYOCERA	CR05-4022F-?
			KOA	RK73H1E?4022F
			ROHM	MCR01?F4022
			SAMSUNG	RC1005F4022?
9003428	15	CAPACITOR CERAMIC SMT 2220 X5R 10UF 50V ±10%	MURATA	GRM55DR61H106KA01?
9003429	13	CAPACITOR CERAMIC SMT 1206 X7R 16V 10UF +80%/-20%	CALCHIP	GMC31X7R106Z16NT
9003430	2	CAPACITOR CERAMIC SMT X5R 0805 16V 2U2 ±10%	MURATA	GRM219R61C225KA88?
9003431	2	CAPACITOR CERAMIC SMT X5R 1210 10V 22U ±10%	MURATA	GRM32ER61A226KE20?
9003432	~~4~~ 5	CAPACITOR CERAMIC SMT X5R1206 16V 4U7 ±10%	MURATA	GRM319R61C475KA88?

Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 16V 4U7 ±10%
Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 1206 X5R
Item Group	CAP		
Reference Designators:	C63, ~~C64~~, C65, C66, C67, C68		

Process Code:	CMP	BAAN Description Line 1:	RES SMT 0402 1/16W 40K2 OHM 1%
Product Type:	XE0	BAAN Description Line 2:	
Item Group	RES		
Reference Designators:	R21		

Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 50V 10UF ±10%
Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 2220 X5R
Item Group	CAP		
Reference Designators:	C1, C102, C1122, C1123, C116, C12, C19, C2, C3, C310, C4, C42, C5, C6, C9		

Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 16V 10UF +80%/-20%
Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 1206 X7R
Item Group	CAP		
Reference Designators:	C308, C35, C39, C76, C77, C78, C80, C81, C84, C86, C87, C88, C92		

Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 16V 2U2 ±10%
Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 0805 X5R
Item Group	CAP		
Reference Designators:	C10, C11		

Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 10V 22U ±10%
Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 1210 X5R
Item Group	CAP		
Reference Designators:	C129, C314		

Device	Qty	Description	Manufacturer	Part Number
9003433	4	CAPACITOR CERAMIC SMT 1812 X7R 50V 2U2 ±10%	MURATA	GRM43ER71H225KAO1?
	Process Code: CMP	BAAN Description Line 1: CAPACITOR 50V 2.2UF 10%		
	Product Type: XE0	BAAN Description Line 2: CERAMIC SMT 1812 X7R		
	Item Group CAP			
	Reference Designators: C36, C37, C7, C8			
9003434	1	CRYSTAL MINIATURE CERAMIC SMD 7M3728 50PPM MAX -40+70C	ABRACON	ABMC2-7.3728MHZ-18-100-D
			M-TRON	PJ-2MM 7.3720MHZ
	Process Code: CMP	BAAN Description Line 1: CRYSTAL SMD 7M3728 50PPM		
	Product Type: XE0	BAAN Description Line 2: -40C_TO70C MINI CERAMIC		
	Item Group CRY			
	Reference Designators: X3			
9003438	1	THERMISTOR NTC 0402 10K AT 25°C 5% B=4250	PANASONIC	ERTJ0ER103J
			VISHAY DALE	NTHS0402N01N1002J
	Process Code: CMP	BAAN Description Line 1: THERMISTOR NTC 0402 10K AT 25C		
	Product Type: XE0	BAAN Description Line 2: ±5%		
	Item Group THR			
	Reference Designators: R63			
9003440	1	CONNECTOR RECEPTACLE DUAL CARDBUS 150 PIN 0MM6 PITCH SMT	TYCO AMP	1123215-1
	Process Code: CMP	BAAN Description Line 1: CONNECTOR 150 PIN RECEPTACLE		
	Product Type: XE0	BAAN Description Line 2: FOR CARDBUS EJECTOR		
	Item Group CON			
	Reference Designators: J5			
9003441	1	CONNECTOR DOUBLE SLOT CARDBUS EJECTOR REVERSE TYPE 2MM STANDOFF	TYCO AMP	1473389-1
	Process Code: CMP	BAAN Description Line 1: CONNECTOR DUAL CARDBUS REVERSE		
	Product Type: XE0	BAAN Description Line 2: EJECTOR RIGHT 2MM STANDOFF		
	Item Group CON			
	Reference Designators: CON1			
9003444	2	CONNECTOR SMT DUAL ROW 20 PIN SOCKET 0.05"X0.1" GRID WITH ALIGNMENT PIN	SAMTEC	FLE-110-01-G-DV-A
	Process Code: CMP	BAAN Description Line 1: CONNECTOR 2X10 HEADER SMT		
	Product Type: XE0	BAAN Description Line 2: 0.05"X0.1" WITH ALIGNMENT PIN		
	Item Group CON			
	Reference Designators: J1, J11			

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Device	Qty	Description	Manufacturer	Part Number
9003455	1	IC MEMORY NAND FLASH 32M X 16 BIT 2.7-3.6V TBGA48_0MM8	SAMSUNG	K9K1216U0C-DIB0?
			ST MICRO	NAND512W4A0AZA6?
	Process Code: CMP	BAAN Description Line 1: IC MEMORY NAND FLASH 32MX16BIT		
	Product Type: XE0	BAAN Description Line 2: TBGA48_0MM8 -40°C TO 125°C		
	Item Group ICT			
	Reference Designators: U46			
9003634	1	CRYSTAL MINIATURE CERAMIC SMD 6M0000 50PPM MAX -40+70C	ABRACON	ABMC2-6.0000MHZ-18-R100-D
			M-TRON	PJ-2MM 6.0000MHZ
	Process Code: CMP	BAAN Description Line 1: CRYSTAL 6M0000 CER SMD 50PPM		
	Product Type: XE0	BAAN Description Line 2: -40-70C		
	Item Group CRY			
	Reference Designators: X1			
9003999	1	TRANSISTOR JFET SOT-23	VISHAY	SST5486
			FAIRCHILD	MMBF5486
	Process Code: CMP	BAAN Description Line 1: TRANSISTOR N-JFET 25V SOT23		
	Product Type: XE0	BAAN Description Line 2: IDSS 10MA		
	Item Group XTR			
	Reference Designators: Q1			
9004097	1	IC DIGITAL POT 100K I2C I-TEMP SC70	ANALOG DEVICES	AD5247BKS100-RL7
	Process Code: CMP	BAAN Description Line 1: IC DIGITAL POT100K I2C I-TEMP		
	Product Type: XE0	BAAN Description Line 2: SC70		
	Item Group ICT			
	Reference Designators: U21			
9004216	1	FILTER EMI 25V 200MA LC SMT 6DB_100MHZ	MURATA	NFW31SP107X1E4L
	Process Code: CMP	BAAN Description Line 1: FILTER SMT EMI 25V 200MA		
	Product Type: XE0	BAAN Description Line 2: LC TYPE 6DB_100MHZ 20DB_500MHZ		
	Item Group FIL			
	Reference Designators: FL7			
9004471	2	RESISTOR SMT 0402 1/16W 18R2 OHM ±1%	VISHAY	CRCW040218R2F?
			AVX KYOCERA	CR05-18R2F-?
	Process Code: CMP	BAAN Description Line 1: RESISITOR 1/16W 18R2 OHM 1%	KOA	RK73H1ELTD18R2F?
	Product Type: XE0	BAAN Description Line 2: SMT 0402	ROHM	MCRO1?F18R2
	Item Group RES		SAMSUNG	RC1005F18R2?
	Reference Designators: R367, R368			

Device	Qty	Description	Manufacturer	Part Number
9004472	1	RESISTOR SMT 0402 1/16W 44R2 OHM ±1%	VISHAY	CRCW040244R2F?
			AVX KYOCERA	CR05-44R2F-?
		Process Code: CMP BAAN Description Line 1: RESISTOR 1/16W 44R2 OHM 1%	KOA	RK73H1ELTD44R2F?
		Product Type: XE0 BAAN Description Line 2: SMT 0402	ROHM	MCRO1?F44R2
		Item Group RES	SAMSUNG	RC1005F44R2?
		Reference Designators: R56		
9004474	4	M2 LOCKWASHER. STAINLESS STEEL, FLAT,INTERNAL TOOTH	SPAE-NAUR	676-018
		Process Code: CMP BAAN Description Line 1: WASHER LOCK M2 INT_TOOTH SS		
		Product Type: XM0 BAAN Description Line 2:		
		Item Group WSR		
		Reference Designators: WRS1-WSR4		
9004475	4	WASHER,STAINLESS STEEL,M2,FLAT	SPAE-NAUR	659-002
		Process Code: CMP BAAN Description Line 1: WASHER FLAT M2 STAINLESS STEEL		
		Product Type: XM0 BAAN Description Line 2:		
		Item Group WSR		
		Reference Designators: WSR5-WSR8		
9004487	1	IC MICROPROCESSOR RESET SOT-143 3.08 THRESHOLD	MICREL	MIC811TU
			ALLIANCE SEMI	ASM811TEUS-T
		Process Code: CMP BAAN Description Line 1: IC MICROPROCESSOR RESET		
		Product Type: XE0 BAAN Description Line 2: SOT-143 3.08 THRESHOLD		
		Item Group ICT		
		Reference Designators: U102		
9004495	1	RESISTOR SMT 0402 1/16W 28K OHM ±1%	VISHAY	CRCW04022802F?
			AVX KYOCERA	CR05-2802F-?
		Process Code: CMP BAAN Description Line 1: RES SMT 0402 1/16W 28K OHM 1%	KOA	RK73H1E?2802F
		Product Type: XE0 BAAN Description Line 2:	ROHM	MCR01?F2802
		Item Group RES	SAMSUNG	RC1005F2802?
		Reference Designators: R6		
9004496	1	RESISTOR SMT 0402 1/16W 511K OHM ±1%	VISHAY	CRCW04025113F?
			AVX KYOCERA	CR05-5113F-?
		Process Code: CMP BAAN Description Line 1: RESISTOR 1/16W 511K OHM 1%	KOA	RK73H1E?5113F
		Product Type: XE0 BAAN Description Line 2: SMT 0402	ROHM	MCR01?F5113
		Item Group RES	SAMSUNG	RC1005F5113?
		Reference Designators: R198		

Device	Qty	Description	Manufacturer	Part Number
9004509	1	IC SINGLE FET BUS SWITCH 250PSEC ACTIVE LOW ENABLE SC70 PKG	TI	SN74CBTLV1G125DCKR
	Process Code: CMP	BAAN Description Line 1: IC SINGLE FET BUS SWITCH		
	Product Type: XE0	BAAN Description Line 2: 250PSEC ACTIVE LOW ENABLE SC70		
	Item Group ICT			
	Reference Designators: U103			
9004510	1	IC TINY LOGIC 2 INPUT OR GATE SOT23-5	FAIRCHILD	NC7SZ32M5X
	Process Code: CMP	BAAN Description Line 1: IC ULP LOGIC 2 INPUT OR GATE		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group ICT			
	Reference Designators: U72			
9004511	2	IC HIGH SPEED 2-INPUT AND GATE	FAIRCHILD	NC7SV08P5X
	Process Code: CMP	BAAN Description Line 1: IC 2-INPUT AND GATE		
	Product Type: XE0	BAAN Description Line 2: HIGH SPEED		
	Item Group ICT			
	Reference Designators: U5, U9			
9004512	2	IC ULP LOGIC 3-INPUT AND GATE	FAIRCHILD	NC7SV11P6X
	Process Code: CMP	BAAN Description Line 1: IC ULP LOGIC 3-INPUT AND GATE		
	Product Type: XE0	BAAN Description Line 2: 1.65V TO 5.5V SC70		
	Item Group ICT			
	Reference Designators: U28, U50			
9004514	3	IC,INTERFACE,BUS_SWITCH,CMOS,20BIT,0_TPD,48QVSOP	PERICOM	PI3B32X384BX
			IDT	IDTQS32XVH384Q1
	Process Code: CMP	BAAN Description Line 1: IC INTERFACE BUS_SWITCH CMOS		
	Product Type: XE0	BAAN Description Line 2: 20BIT 0_TPD 48QVSOP		
	Item Group ICT			
	Reference Designators: U79, U80, U81			
9004533	1	IC TINYLOGIC ULP SINGLE BUFFER WITH SCHMITT TRIGGER INPUT SC70 PKG	FAIRCHILD	NC7SP17P5X
	Process Code: CMP	BAAN Description Line 1: IC BUFFER WITH SCHMITT TRIGGER		
	Product Type: XE0	BAAN Description Line 2: SC70 PACKAGE		
	Item Group ICT			
	Reference Designators: U85			

Device	Qty	Description	Manufacturer	Part Number
9004558	1	IC LDO REGULATOR 2V5 1A5 SOT223-5	TEXAS INSTRUMENTS	TPS78625DCQ?
	Process Code: CMP	BAAN Description Line 1: IC LDO REGULATOR 2V5 1A5		
	Product Type: XE0	BAAN Description Line 2: SOT223-5		
	Item Group ICT			
	Reference Designators: U101			
9006461	2	CONNECTOR,HEADER,SINGLE ROW ,2 PIN,SMT,1.25MM,RIGHT ANGLE	MOLEX	53261-0271
	Process Code: CMP	BAAN Description Line 1: CONNECTOR 1.25MM 2 PIN SMT R.A		
	Product Type: XE0	BAAN Description Line 2: SINGLE ROW 1.25MM LEAD FREE		
	Item Group CON			
	Reference Designators: J10, J9			
~~9006579~~ 9006875	1	CONNECTOR HEADER COMPACT FLASH TYPE I SMT 50PIN 2MM STANDOFF I-TEMP	3M	N7E50-N516TC-50
	Process Code: CMP	BAAN Description Line 1: CONNECTOR COMPACT FLASH TYPE I		
	Product Type: XE0	BAAN Description Line 2: INVERSE POLARITY 2MM STANDOFF		
	Item Group CON			
	Reference Designators: J2			
92075	0.001	LOCTITE	LOCTITE	NO. 222
	Process Code: CMP	BAAN Description Line 1: LOCTITE NO 222		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group ADH			
	Reference Designators: ADH5-ADH10			
92525	2	TRANSISTOR SMD SOT-23 NPN MMBT3904 GENERAL PURPOSE	MOTOROLA	MMBT3904
			PHILIPS	PMBT3904
	Process Code: CMP	BAAN Description Line 1: XSTR SMD SOT-23 NPN GEN PUR	CENTRAL	CMPT3904
	Product Type: XE0	BAAN Description Line 2:	ON SEMI	MMBT3904LT1
	Item Group XTR			
	Reference Designators: Q2, Q3			
92642	6	DIODE SMALL SIGNAL MMBD914 SOT-23 PKG	MOTORL	MMBD914
			NTLSEM	MMBD914
	Process Code: CMP	BAAN Description Line 1: DIODE SMALL SIGNAL SOT-23		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group DIO			
	Reference Designators: D12, D17, D18, D19, D20, D22			

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Device	Qty	Description	Manufacturer	Part Number
92984	1	RESISTOR SMT 1206 250MW 100R 5%	PHILIPS	9C12063A1000J
			KOA	RK73B2BL?101J
			YAGEO	2322 711 ??101
Process Code:	CMP	BAAN Description Line 1: RESISTOR .125W 100 OHM 5% 1206		
Product Type:	XE0	BAAN Description Line 2: SMT		
Item Group	RES			
Reference Designators:	R41			
93037	4	TRANSISTOR PNP MMBT4403 SOT-23	NATIONAL SEMI	MMBT4403LT1
			PHILIPS	PMBT4403
			HI-SINCERITY	HMBT4403
			DIODES INC	MMBT4403
			ON SEMI	MMBT4403LT1
Process Code:	CMP	BAAN Description Line 1: XSTR PNP SOT-23		
Product Type:	XE0	BAAN Description Line 2: 225MW 100_HFE SOT23		
Item Group	A00			
Reference Designators:	Q25, Q39, Q40, Q41			
93285	2	DIODE SCHOTTKY SMT SOT-23 200MA 30V	PHILIP	BAT54
Process Code:	CMP	BAAN Description Line 1: DIO SCHOT SOT-23 200MA 30V		
Product Type:	XE0	BAAN Description Line 2:		
Item Group	DIO			
Reference Designators:	D11, D3			
93615	2	DIODE, SCHOTTKY, SMB, 1A, 40V	MOTOROLA	MBRS140T3
Process Code:	CMP	BAAN Description Line 1: DIO SCHOTTKY SMB 1A 40V		
Product Type:	XE0	BAAN Description Line 2:		
Item Group	DIO			
Reference Designators:	D51, D52			
94054	13	CAPACITOR CERAMIC SMT X7R 1206 16V 1U0 ±10%	CAL-CHIP	GMC31X7R105K16N
			MURATA	GRM42-6X7R105K016
			MURATA	GRM42-6X5R105K016
Process Code:	CMP	BAAN Description Line 1: CAP CER 1UF 16V 1206		
Product Type:	XE0	BAAN Description Line 2:		
Item Group	CAP			
Reference Designators:	C101, C104, C1095, C1096, C1097, C134, C135, C140, C141, C148, C336, C378, C379			
94543	19	DIODE POWER SCHOTTKY 30V 500MA SOD123 I-TEMP	MOTOROLA	MBR0530T
Process Code:	CMP	BAAN Description Line 1: DIO SCH 30PIV .5A SOD-123		
Product Type:	XE0	BAAN Description Line 2:		
Item Group	DIO			
Reference Designators:	D16, D2, D21, D29, D30, D31, D32, D33, D34, D35, D36, D38, D39, D4, D40, D41, D48, D49, D5			

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Device	Qty	Description	Manufacturer	Part Number
94724	1	IC INTERFACE SMT SOIC8	NATIONAL SEMI	DS8921AM
	Process Code:	CMP	BAAN Description Line 1:	IC I/F RS422 DRVR AND RX PAIR
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	ICT		
	Reference Designators:	U47		
94751	0.001	ADH SILICON RTV WHT RTV162	GENERAL ELECTRIC	RTV162
	Process Code:	CMP	BAAN Description Line 1:	ADH SILICON RTV WHT RTV162
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	ADH		
	Reference Designators:	ADH1-ADH4		
95257	6	NUT M2 PCMCIA	BERG	92869-001
	Process Code:	CMP	BAAN Description Line 1:	NUT M2 PCMCIA
	Product Type:	XM0	BAAN Description Line 2:	
	Item Group	NUT		
	Reference Designators:	NUT1- NUT6		
95559	1	RESISTOR SMT 1206 0.25W 0R05 ±1%	DALE	WSL-1206 0.05OHMS 1%
	Process Code:	CMP	BAAN Description Line 1:	RES SMT 0R05 250MW 1% 1206
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	RES		
	Reference Designators:	R388		
95565	1	LABEL 0.25" X 0.25" WHITE	BRADY	LAT-26747W-10
	Process Code:	CMP	BAAN Description Line 1:	LABEL 0.25" X 0.25" WHITE
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	LBL		
	Reference Designators:	LBL1		
95621	21	CAPACITOR CERAMIC SMT X7R 0805 50V 100N ±20%	AVX KYOCERA	08055C104MAT2A
	Process Code:	CMP	BAAN Description Line 1:	CAP 100N 20% 50V 0805
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	CAP		
	Reference Designators:	C103, C357, C38, C411, C430, C431, C44, C45, C46, C47, C470, C48, C49, C51, C52, C53, C54, C55, C56, C85, C89		

Device	Qty	Description	Manufacturer	Part Number
96321	6	FER, 220R@100MHZ,6A,SMT,0805	MURATA	BLM21PG221SN1?
	Process Code: CMP	BAAN Description Line 1: FER, 220R@100MHZ,6A,SMT,0805		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group FER			
	Reference Designators: L28, L29, L3, L30, L31, L32			
96331	1	FER,CMODE,550R@100MHZ,SMT,1206	MURATA	PLP3216S551SL2
	Process Code: CMP	BAAN Description Line 1: FER,CMODE,550R@100MHZ,SMT,1206		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group FER			
	Reference Designators: L16			
96350	14	FER, 120R@100MHZ,.2A,SMT,0402	MURATA	BLM10A121SPT
	Process Code: CMP	BAAN Description Line 1: FER, 120R@100MHZ,.2A,SMT,0402		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group FER			
	Reference Designators: L10, L41, L42, L43, L44, L45, L46, L47, L48, L5, L6, L7, L8, L9			
97125	3	IC,TINY LOGIC HS INVERTER,SOT23	FAIRCHILD	NC7S04M5
			TOSHIBA	TC7SH04F
	Process Code: CMP	BAAN Description Line 1: TINY LOGIC HS INVERTER		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group ICT			
	Reference Designators: U100, U73, U82			
97224	2	RESISTOR SMT 0402 1/16W 10R0 OHM ±1%	VISHAY	CRCW040210R0F?
			AVX KYOCERA	CR05-10R0F-?
	Process Code: CMP	BAAN Description Line 1: RES,SMT 0402 1/16W 10R0 OHM 1%	KOA	RK73H1E?10R0F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F10R0
	Item Group RES		PANASONIC	ERJ2RKF100?
	Reference Designators: R311, R349		SAMSUNG	RC1005F10R0?
97232	29	RESISTOR SMT 0402 1/16W 22R1 OHM ±1%	VISHAY	CRCW040222R1F?
			AVX KYOCERA	CR05-22R1F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 22R1 OHM 1%	KOA	RK73H1E?22R1F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F22R1
	Item Group RES		SAMSUNG	RC1005F22R1?
	Reference Designators: R101, R102, R131, R174, R175, R176, R177, R178, R179, R183, R189, R191, R35, R355, R356, R357, R358, R359, R362, R423, R49, R581, R586, R591, R593, R598, R619, R65, R95			

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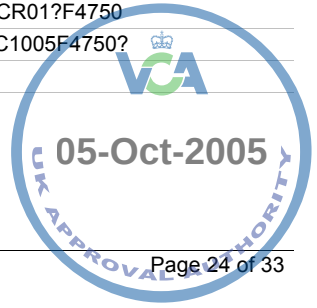
Device	Qty	Description	Manufacturer	Part Number
97234	4	RESISTOR SMT 0402 1/16W 27R4 OHM ±1%	VISHAY	CRCW040227R4F?
			AVX KYOCERA	CR05-27R4F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 27R4 OHM 1%	KOA	RK73H1E?27R4F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F27R4
	Item Group RES		SAMSUNG	RC1005F27R4?
	Reference Designators: R360, R361, R369, R370			
97236	1	RESISTOR SMT 0402 1/16W 33R2 OHM ±1%	VISHAY	CRCW040233R2F?
			AVX KYOCERA	CR05-33R2F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 33R2 OHM 1%	KOA	RK73H1E?33R2F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F33R2
	Item Group RES		SAMSUNG	RC1005F33R2?
	Reference Designators: R40			
97244	2	RESISTOR SMT 0402 1/16W 68R1 OHM ±1%	VISHAY	CRCW040268R1F?
			AVX KYOCERA	CR05-68R1F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 68R1 OHM 1%	KOA	RK73H1E?68R1F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F68R1
	Item Group RES		SAMSUNG	RC1005F68R1?
	Reference Designators: R248, R93			
97248	7	RESISTOR SMT 0402 1/16W 100 OHM ±1%	VISHAY	CRCW04021000F?
			AVX KYOCERA	CR05-1000F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 100 OHM 1%	KOA	RK73H1E?1000F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F1000
	Item Group RES		PANASONIC	ERJ2RKF101?
	Reference Designators: R132, R133, R194, R195, R196, R261, R348		SAMSUNG	RC1005F1000?
97256	2	RESISTOR SMT 0402 1/16W 221 OHM ±1%	VISHAY	CRCW04022210F?
			AVX KYOCERA	CR05-2210F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 221 OHM 1%	KOA	RK73H1E?2210F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F2210
	Item Group RES		SAMSUNG	RC1005F2210?
	Reference Designators: R118, R146			
97264	1	RESISTOR SMT 0402 1/16W 475 OHM ±1%	VISHAY	CRCW04024750F?
			AVX KYOCERA	CR05-4750F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 470 OHM 1%	KOA	RK73H1E?4750F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F4750
	Item Group RES		SAMSUNG	RC1005F4750?
	Reference Designators: R33			



Device	Qty	Description	Manufacturer	Part Number
97272	23	RESISTOR SMT 0402 1/16W 1K00 OHM ±1%	VISHAY	CRCW04021001F?
			AVX KYOCERA	CR05-1001F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 1K00 OHM 1%	KOA	RK73H1E?1001F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F1001
	Item Group RES		PANASONIC	ERJ2RKF102?
	Reference Designators:	R192, R317, R318, R319, R363, R364, R365, R366, R373, R374, R375, R376, R377, R378, R379, R381, R382, R383, R387, R604, R615, R616, R62	SAMSUNG	RC1005F1001?
97273	1	RESISTOR SMT 0402 1/16W 1K10 OHM ±1%	VISHAY	CRCW04021101F?
			AVX KYOCERA	CR05-1101F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 1K10 OHM 1%	KOA	RK73H1E?1101F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F1101
	Item Group RES		PANASONIC	ERJ2RKF112?
	Reference Designators:	R3	SAMSUNG	RC1005F1101?
97276	3	RESISTOR SMT 0402 1/16W 1K50 OHM ±1%	VISHAY	CRCW04021501F?
			AVX KYOCERA	CR05-1501F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 1K50 OHM 1%	KOA	RK73H1E?1501F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F1501
	Item Group RES		PANASONIC	ERJ2RKF152?
	Reference Designators:	R135, R154, R155	SAMSUNG	RC1005F1501?
97288	212	RESISTOR SMT 0402 63MW 4K70 1%	VISHAY	CRCW04024701F?
			AVX	CR05-4701F-?
	Process Code: CMP	BAAN Description Line 1: UNDEFINED	KOA	RM73H1E?4701F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCRO1?F4701
	Item Group RES		PANASONIC	ERJ2RKF472?
	Reference Designators:	R320, R321, R322, R323, R324, R325, R326, R327, R328, R329, R330, R331, R332, R333, R334, R335, R336, R337, R338, R339, R340, R341, R345, R346, R350, R351, R352, R353, R354, R371, R372, R380, R384, R385, R386, R389, R393, R394, R400, R401, R402, R403, R404, R405, R406, R407, R408, R409, R411, R412, R418, R419, R420, R421, R422, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437, R438, R439, R440, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500, R501, R502, R503, R504, R505, R506, R507, R508, R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R612	SAMSUNG	RC1005F4701?

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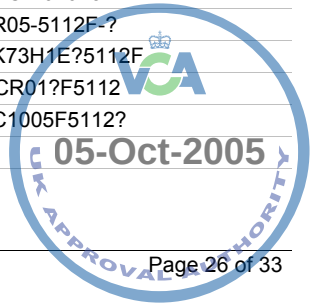
Device	Qty	Description	Manufacturer	Part Number
97296	146	RESISTOR SMT 0402 1/16W 10K0 OHM ±1%	VISHAY	CRCW04021002F?
			AVX KYOCERA	CR05-1002F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 10K0 OHM 1%	KOA	RK73H1E?1002F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F1002
	Item Group RES		PANASONIC	ERJ2RKF103?
	Reference Designators:	R125, R127, R128, R129, R134, R136, R137, R139, R142, R145, R149, R153, R156, R164, R165, R166, R180, R181, R182, R184, R185, R186, R187, R188, R190, R193, R197, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R210, R211, R212, R213, R215, R216, R217, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230, R231, R232, R233, R235, R236, R237, R238, R240, R241, R242, R243, R244, R245, R246, R247, R250, R251, R255, R260, R262, R263, R264, R265, R266, R267, R269, R270, R271, R272, R273, R274, R275, R276, R277, R278, R279, R280, R281, R282, R283, R284, R286, R287, R288, R289, R290, R291, R292, R293, R294, R295, R296, R297, R298, R299, R300, R301, R302, R303, R305, R306, R307, R308, R309, R310, R312, R313, R314, R315, R316, R342, R343, R344, R391, R424, R589, R590, R599, R600, R603, R614, R617, R621, R623, R624, R626, R627, R629, R630, R631, R66, R67	SAMSUNG	RC1005F1002?
97299	1	RESISTOR SMT 0402 63MW 13K0 1%	VISHAY	CRCW04021302F?
			AVX	CR05-1302F-?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 13K0 OHM 1%	KOA	RM73H1E?1302F
	Product Type: XE0	BAAN Description Line 2: SMT_0402	ROHM	MCRO1?F1302
	Item Group RES		SAMSUNG	RC1005F1302?
	Reference Designators:	R34		
97300	9	RESISTOR SMT 0402 1/16W 15K0 OHM ±1%	VISHAY	CRCW04021502F?
			AVX KYOCERA	CR05-1502F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 15K0 OHM 1%	KOA	RK73H1E?1502F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F1502
	Item Group RES		PANASONIC	ERJ2RKF153?
	Reference Designators:	R10, R11, R12, R13, R14, R15, R16, R7, R9	SAMSUNG	RC1005F1502?
97303	5	RESISTOR SMT 0402 1/16W 20K0 OHM ±1%	VISHAY	CRCW04022002F?
			AVX KYOCERA	CR05-2002F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 20K0 OHM 1%	KOA	RK73H1E?2002F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F2002
	Item Group RES		PANASONIC	ERJ2RKF203?
	Reference Designators:	R157, R158, R159, R160, R161	SAMSUNG	RC1005F2002?
97313	1	RESISTOR SMT 0402 1/16W 51K1 OHM ±1%	VISHAY	CRCW04025112F?
			AVX KYOCERA	CR05-5112F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 51K1 OHM 1%	KOA	RK73H1E?5112F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F5112
	Item Group RES		SAMSUNG	RC1005F5112?
	Reference Designators:	R199		



Device	Qty	Description	Manufacturer	Part Number
97316	1	RESISTOR SMT 0402 1/16W 68K1 OHM ±1%	VISHAY	CRCW04026812F?
			AVX KYOCERA	CR05-6812F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 68K1 OHM 1%	KOA	RK73H1E?6812F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F6812
	Item Group RES		SAMSUNG	RC1005F6812?
	Reference Designators: R19			
97320	77	RESISTOR SMT 0402 1/16W 100K OHM ±1%	VISHAY	CRCW04021003F?
			AVX KYOCERA	CR05-1003F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 100K OHM 1%	KOA	RK73H1E?1003F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F1003
	Item Group RES		PANASONIC	ERJ2RKF104?
	Reference Designators: R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R119, R120, R121, R122, R123, R124, R126, R252, R253, R254, R256, R257, R258, R259, R44, R46, R47, R48, R50, R51, R52, R53, R54, R55, R57, R58, R59, R60, R605, R61, R613, R618, R625, R628, R64, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R8, R80, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R94, R96, R97, R98		SAMSUNG	RC1005F1003?
97326	1	RESISTOR SMT 0402 1/16W 182K OHM ±1%	VISHAY	CRCW04021823F?
			AVX KYOCERA	CR05-1823F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 182K OHM 1%	KOA	RK73H1E?1823F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCRO1?F1823
	Item Group RES		SAMSUNG	RC1005F1823?
	Reference Designators: R36			
97327	2	RESISTOR SMT 0402 1/16W 200K OHM ±1%	VISHAY	CRCW04022003F?
			AVX KYOCERA	CR05-2003F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 200K OHM 1%	KOA	RK73H1E?2003F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F2003
	Item Group RES		PANASONIC	ERJ2RKF204?
	Reference Designators: R143, R144		SAMSUNG	RC1005F2003?
97331	3	RESISTOR SMT 0402 1/16W 301K OHM ±1%	VISHAY	CRCW04023013F?
			AVX KYOCERA	CR05-3013F-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 301K OHM 1%	KOA	RK73H1E?3013F
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?F3013
	Item Group RES		SAMSUNG	RC1005F3013?
	Reference Designators: R140, R148, R99			
97365	4	CAPACITOR CERAMIC SMT COG 0402 50V 12P ±5%	MURATA	GRM36COG120J050AD
			AVX KYOCERA	4025A120JAT2A
	Process Code: CMP	BAAN Description Line 1: CAP CER SMT 12P 50V 5% 0402	PANASONIC	ECU-E1H120JCQ
	Product Type: XE0	BAAN Description Line 2:		
	Item Group CAP			
	Reference Designators: C14, C15, C16, C17			

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Device	Qty	Description	Manufacturer	Part Number
97370	5	CAPACITOR CERAMIC SMT COG 0402 50V 18P ±5%	MURATA	GRM36COG180J050AD
			AVX	4025A180JAT2A
	Process Code:	CMP	BAAN Description Line 1:	CAP CER SMT 18P 50V 5% 0402
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	CAP		
	Reference Designators:	C71, C72, C73, C74, C75		
97371	39	CAPACITOR CERAMIC SMT COG 0402 50V 100P ±5%	MURATA	GRM36COG101J050AD
	Process Code:	CMP	BAAN Description Line 1:	CAP CER SMT 100P 50V 5% 0402
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	CAP		
	Reference Designators:	C100, C107, C108, C109, C117, C137, C149, C151, C152, C153, C154, C155, C158, C161, C206, C210, C215, C277, C278, C279, C280, C281, C282, C283, C284, C287, C288, C289, C290, C57, C90, C91, C93, C94, C95, C96, C97, C98, C99		
97372	56	CAPACITOR CERAMIC SMT X7R 0402 16V 10N ±5%	MURATA	GRM36X7R103K016AD
	Process Code:	CMP	BAAN Description Line 1:	CAP CER SMT 10N 16V 5% 0402
	Product Type:	HHC	BAAN Description Line 2:	
	Item Group	CAP		
	Reference Designators:	C1102, C1103, C1104, C1105, C156, C157, C159, C160, C190, C194, C199, C202, C249, C250, C251, C252, C253, C254, C255, C256, C257, C261, C265, C269, C275, C276, C285, C340, C341, C354, C356, C362, C365, C369, C372, C395, C399, C404, C415, C416, C417, C418, C421, C425, C435, C455, C456, C457, C458, C459, C460, C461, C462, C463, C464, C465		
97375	10	CAPACITOR CERAMIC SMT X7R 0402 50V 1N0 ±10%	MURATA	GRM36X7R102K050AD
	Process Code:	CMP	BAAN Description Line 1:	CAP CER 1N0 50V +/-10% 0402
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	CAP		
	Reference Designators:	C24, C25, C26, C27, C28, C30, C31, C32, C33, C83		
97376	2	CAPACITOR CERAMIC SMT X7R 0402 25V 4N7 ±10%	MURATA	GRM36X7R472K025AD
	Process Code:	CMP	BAAN Description Line 1:	CAP CER 4N7 25V +/-10% 0402
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	CAP		
	Reference Designators:	C69, C70		

Device	Qty	Description	Manufacturer	Part Number
97453	21	RESISTOR SMT 0402 1/16W 0R0 OHM JUMPER	VISHAY	CRCW0402000?
			AVX	CJ05-000-?
	Process Code: CMP	BAAN Description Line 1: RES SMT 0402 1/16W 0R0 OHM	KOA	RK73Z1E?
	Product Type: XE0	BAAN Description Line 2:	ROHM	MCR01?J000
	Item Group RES		PANASONIC	ERJ2GEYOR00?
	Reference Designators:	R138, R171, R172, R173, R214, R234, R239, R249, R392, R395, R398, R399, R410, R45, R587, R588, R592, R601, R608, R609, R611	SAMSUNG	RC1005J000?
97467	1	IC, LVCMOS, QUAD BUF, HI-Z PWR DOWN, 5V-TOL	FAIRCHILD	74LCX125M
			TEXAS INSTRUMENTS	SN74LVC125AD
	Process Code: CMP	BAAN Description Line 1: ICT,BUF,LVC,HI-Z PWR DN,SOIC14	PHILIPS	74LVC125AD
	Product Type: XE0	BAAN Description Line 2:	ON SEMICONDUCTOR	MC74LCX125D
	Item Group ICT			
	Reference Designators:	U54		
97619	1	IC DC-DC CONVERTER STEP-UP MICROPOWER SOT23-5	LINEAR TECHNOLOGY	LT1615ES5
	Process Code: CMP	BAAN Description Line 1: IC DC-DC CONV STEP-UP SOT23-5		
	Product Type: XE0	BAAN Description Line 2:		
	Item Group ICT			
	Reference Designators:	U51		
97633	4	TRANSISTOR MOSFET POWER P_CHAN ENHANCEMENT 4A -30V R06_RDS SOT-6	FAIRCHILD	FDC658P
	Process Code: CMP	BAAN Description Line 1: TRANSISTOR P_CH FET -30V -4A		
	Product Type: XE0	BAAN Description Line 2: SOT-6		
	Item Group XTR			
	Reference Designators:	Q67, Q69, Q70, Q82		
97634	29	TRANSISTOR MOSFET N_CHAN ENHANCEMENT 350MW 25V 0R6_RDS 2.5VGS SOT-23	FAIRCHILD	FDV303N
	Process Code: CMP	BAAN Description Line 1: TRANSISTOR N_CH FET 25V SOT23		
	Product Type: XE0	BAAN Description Line 2: 350MW		
	Item Group XTR			
	Reference Designators:	Q10, Q11, Q12, Q14, Q15, Q16, Q17, Q18, Q19, Q20, Q21, Q22, Q23, Q24, Q28, Q30, Q32, Q37, Q38, Q5, Q6, Q7, Q75, Q76, Q77, Q78, Q79, Q8, Q9		
97645	1	CAPACITOR CERAMIC SMT 1210 X5R 50V 1UF 20%	TAIYO-YUDEN	UMK325BJ105MH-T
			KEMET	C1210C105M5PAC
	Process Code: CMP	BAAN Description Line 1: CAPACITOR 50V 1UF 20%	AVX	12105C105MAT?A
	Product Type: XE0	BAAN Description Line 2: CERAMIC SMT 1210 X5R		
	Item Group CAP			
	Reference Designators:	C13		

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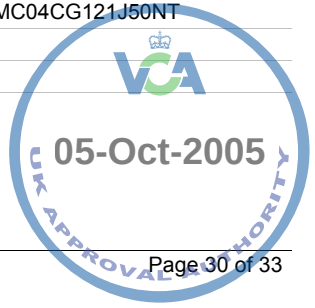
Device	Qty	Description	Manufacturer	Part Number
97648	1	DIODE POWER SCHOTTKY 40V 3A SMT	MOTOROLA	MBRS340T3
	Process Code:	CMP	BAAN Description Line 1:	DIODE SMT SCHOTTKY 40V 3A		
	Product Type:	XE0	BAAN Description Line 2:			
	Item Group	DIO				
	Reference Designators:	D13				
97661	2	INDUCTOR SMT POWER 10UH 20% SHIELDED 1.3A 0R0532 DC	TDK	SLF6028T-100M1R3
	Process Code:	CMP	BAAN Description Line 1:	INDUCTOR SMT 10UH 20% SHIELDED		
	Product Type:	XE0	BAAN Description Line 2:	1.3A		
	Item Group	IND				
	Reference Designators:	L24, L25				
97662	1	IC DC-DC CONVERTER STEP-DOWN SYNCHRONOUS HI-EFFICIENCY MSOP8	LINEAR TECHNOLOGY	LTC1878EMS8
	Process Code:	CMP	BAAN Description Line 1:	IC DC-DC CONV STEP-DOWN MSOP8		
	Product Type:	XE0	BAAN Description Line 2:			
	Item Group	ICT				
	Reference Designators:	U56				
97707	1	DIODE SMT ZENER 12V 350MW SOT-23	DIODES INC	BZX84C12
			GENERAL SEMI	MMBZ4699
	Process Code:	CMP	BAAN Description Line 1:	DIODE ZNR, 12V, 350MW, SOT-23		
	Product Type:	XE0	BAAN Description Line 2:			
	Item Group	DIO				
	Reference Designators:	D1				
97764	5	CAPACITOR CERAMIC SMT 1206 X7R 25V 1U0 ±20%	KEMET	C1206C105M3RAC
			MURATA	GRM42-6X7R105KO25AL
	Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 25V 1UF 20%	VENKEL	C1206X7R250-105MN?
	Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 1206 X7R		
	Item Group	CAP				
	Reference Designators:	C20, C21, C22, C23, C29				
97848	2	CAPACITOR CERAMIC SMT 0402 COG 50V 120PF ±5%	MURATA	GRP1555C1H121J?
			VENKEL	C0402COG500121JN?
	Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 50V 120PF 5%	AVX	04025A121JAT?A
	Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 0402 COG	CALCHIP	GMC04CG121J50NT
	Item Group	CAP				
	Reference Designators:	C118, C119				



Device	Qty	Description	Manufacturer	Part Number
97857	1	IC INTERFACE TRANSCEIVER RS232D 3TX_5RX 120KBPS 3_3/5V LO_PWR I-TEMP SSOP28	SIPEX	SP3243EEA
			INTERSIL	ICL3243IA
	Process Code: CMP	BAAN Description Line 1: IC RS232 TRANSCEIVER 3TX_5RX	MAXIM	MAX3243EEIA
	Product Type: XE0	BAAN Description Line 2: 120KPS 3_3/5V I-TEMP SSOP28		
	Item Group ICT			
	Reference Designators: U57			
97862	1	RESISTOR SMT 0402 1/16W 931K OHM ±1%	VISHAY	CRCW04029313F?
			AVX KYOCERA	CR05-9313F-?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 931K OHM 1%	KOA	RK73H1E?9313F
	Product Type: XE0	BAAN Description Line 2: SMT 0402	ROHM	MCR01?F9313
	Item Group RES		VENKEL	CR0402-16W-9313FT
	Reference Designators: R4		SAMSUNG	RC1005F9313?
97863	1	RESISTOR SMT 0402 1/16W 82K5 OHM ±1%	VISHAY	CRCW04028252F?
			AVX KYOCERA	CR05-8252F-?
	Process Code: CMP	BAAN Description Line 1: RESISTOR 1/16W 82K5 OHM 1%	KOA	RK73H1E?8252F
	Product Type: XE0	BAAN Description Line 2: SMT 0402	ROHM	MCR01?F8252
	Item Group RES		PANASONIC	ERJ2RKF8252?
	Reference Designators: R38		SAMSUNG	RC1005F8252?
97866	2	IC OP AMP LOW POWER RAIL-TO-RAIL OUTPUT SC70-5	NATIONAL SEMICOND	LPV321M7
			TEXAS INSTRUMENTS	OPA349SA
	Process Code: CMP	BAAN Description Line 1: IC OP AMP LOW POWER		
	Product Type: XE0	BAAN Description Line 2: RAIL-TO-RAIL SC70-5		
	Item Group ICT			
	Reference Designators: U38, U39			

Device	Qty	Description	Manufacturer	Part Number
97871	221	CAPACITOR CERAMIC SMT 0402 X7R 16V 100NF ±15%	VENKEL	C0402X7R160-104E
	Process Code:	CMP	BAAN Description Line 1:	CAPACITOR 16V 100NF ±15%		
	Product Type:	XE0	BAAN Description Line 2:	CERAMIC SMT 0402 X7R		
	Item Group	CAP				
	Reference Designators:	C105, C1118, C1119, C1120, C1121, C1124, C1125, C1127, C1128, C1129, C127, C128, C138, C139, C142, C143, C145, C147, C162, C163, C164, C165, C166, C167, C168, C169, C170, C171, C172, C173, C174, C175, C176, C177, C178, C179, C18, C180, C181, C182, C183, C184, C185, C186, C187, C188, C189, C191, C192, C193, C195, C196, C197, C198, C200, C201, C203, C204, C205, C207, C208, C209, C212, C213, C214, C216, C217, C218, C219, C220, C221, C222, C223, C224, C225, C226, C227, C228, C229, C230, C231, C232, C233, C234, C235, C236, C237, C238, C239, C240, C241, C242, C243, C244, C245, C246, C247, C248, C258, C259, C260, C262, C263, C264, C266, C267, C268, C270, C271, C272, C273, C274, C286, C292, C293, C294, C295, C296, C297, C298, C299, C300, C301, C302, C303, C304, C305, C309, C313, C315, C316, C317, C318, C319, C320, C321, C322, C323, C324, C325, C326, C327, C328, C329, C330, C331, C332, C333, C334, C335, C34, C360, C361, C363, C364, C366, C367, C368, C370, C371, C373, C374, C380, C381, C382, C383, C384, C385, C386, C387, C388, C389, C390, C391, C392, C393, C394, C396, C397, C398, C40, C400, C401, C402, C403, C405, C406, C407, C408, C409, C41, C410, C413, C414, C422, C423, C424, C426, C427, C428, C429, C43, C432, C433, C434, C447, C448, C449, C450, C451, C452, C453, C454, C467, C468, C469, C50, C600, C601, C602, C603		
97872	13	RESISTOR SMT 0402 1/16W 1M OHM ±1%	VISHAY	CRCW04021004F?
			AVX KYOCERA	CR05-1004F-?
	Process Code:	CMP	BAAN Description Line 1:	RESISTOR 1/16W 1M OHM 1%	KOA	RK73H1E?1004F
	Product Type:	XE0	BAAN Description Line 2:	SMT 0402	ROHM	MCR01?F1004
	Item Group	RES			PANASONIC	ERJ2RKF105?
	Reference Designators:	R20, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R5			SAMSUNG	RC1005F1004?
98136	3	FERRITE SMT 200MA 1000OHM_100MHZ 0.45OHM_DC 0805	MURATA ERIE	BLM21A102S?
	Process Code:	CMP	BAAN Description Line 1:	FERRITE SMT BEAD 1K@100MHZ		
	Product Type:	XE0	BAAN Description Line 2:	200MA 0805		
	Item Group	FER				
	Reference Designators:	FL11, FL4, FL5				
98139	3	IC TINY LOGIC 2 INPUT OR GATE SOT23-5	FAIRCHILD	NC7S32M5X
			ON SEMICONDUCTOR	MC74VHC1G32DTT1
	Process Code:	CMP	BAAN Description Line 1:	IC TINY LOGIC 2 INPUT OR GATE	TOSHIBA	TC7SZ32F
	Product Type:	XE0	BAAN Description Line 2:			
	Item Group	ICT				
	Reference Designators:	U33, U34, U35				

Device	Qty	Description	Manufacturer	Part Number
98152	2	IC POWER SWITCH 1.5A HIGH SIDE 5V SO-8	TEXAS INSTRUMENTS	TPS2023D
	Process Code:	CMP	BAAN Description Line 1:	IC POWER SWITCH 1.5A HIGH SIDE
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	ICT		
	Reference Designators:	U45, U64		
98153	1	IC POWER SWITCH 1.0A HIGH SIDE 5V SO-8	TEXAS INSTRUMENTS	TPS2022D
	Process Code:	CMP	BAAN Description Line 1:	IC POWER SWITCH 1.0A
	Product Type:	XE0	BAAN Description Line 2:	HIGH SIDE 5V
	Item Group	ICT		
	Reference Designators:	U53		
98171	1	IC UNIVERSAL SERIAL BUS HUB	PHILIPS	ISP1122ABD
	Process Code:	CMP	BAAN Description Line 1:	IC UNIVERSAL SERIAL BUS HUB
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	ICT		
	Reference Designators:	U44		
98184	1	IC REAL TIME CLOCK WITH I2C BUS AND VOLTAGE MONITORING SS0P10G	RICOH	RV5C386A
	Process Code:	CMP	BAAN Description Line 1:	IC REAL TIME CLOCK WITH I2C BU
	Product Type:	XE0	BAAN Description Line 2:	VOLTAGE MONITORING SSOP10G
	Item Group	ICT		
	Reference Designators:	U15		
98185	1	IC ONE KBIT SERIAL I2C EEPROM TSSOP8	ST MICRO	M24C01WDW6T
	Process Code:	CMP	BAAN Description Line 1:	IC EEPROM SERIAL I2C 1K BIT
	Product Type:	XE0	BAAN Description Line 2:	
	Item Group	ICT		
	Reference Designators:	U22		

9004343 1 CAPACITOR 47UF 20% 6.3V CERAMIC X5R SMT 1206 MURATA GRM31CR60J476ME19?
TDK C3216X5R0J476M?

process code: CMP Baan Des1:*CAPACITOR 47UF 20% 6.3V*
Product Type: XE0 Baan Des*2:* CERAMIC X5R SMT 1206
Item group: CAP
Reference Designator: C64

Special Component Detail

Related Reference Designator	BaaN P/N	Description	Qty
PCB1	1008021	PCB 8525 KEYBOARD 68 KEY	1
ADH1	94751	GE SILICONE RTV 162 NON CORROSIVE	0.001
LBL1	95565	LABEL 0.25" X 0.25" WHITE	1
LBL2	1008087	LABEL BLANK PCA 0.25"X1.0" WHITE MYLAR 0.002" THICK	1

DOC1	1008020	DOCUMENT, ARTWORK 8525 KEYBOARD 68 KEY	0
DOC2	1008023	DOCUMENT, PCA ASSY 8525 KEYBOARD 68 KEY	0
DOC3	1008024	DOCUMENT, SCHEMATIC 8525 KEYBOARD 68 KEY	0
DOC4	1010084	DOCUMENT, SERIAL NUMBER CODING INSTRUCTIONS	0
DOC5	7000534-200	DOC FUNCTIONAL TEST SPEC 8525/30 KEYBOARD	0
DOC6	1008551	DOCUMENT, 7535 KEYBOARD PROGRAMMING INSTRUCTIONS	0
F/W1	1008550	FIRMWARE CODE 7535 KEYBOARD CONTROLLER	0

8525 / 8530 - KEYBOARD

SCHEMATIC INDEX

Page 2: PIC Microntroller

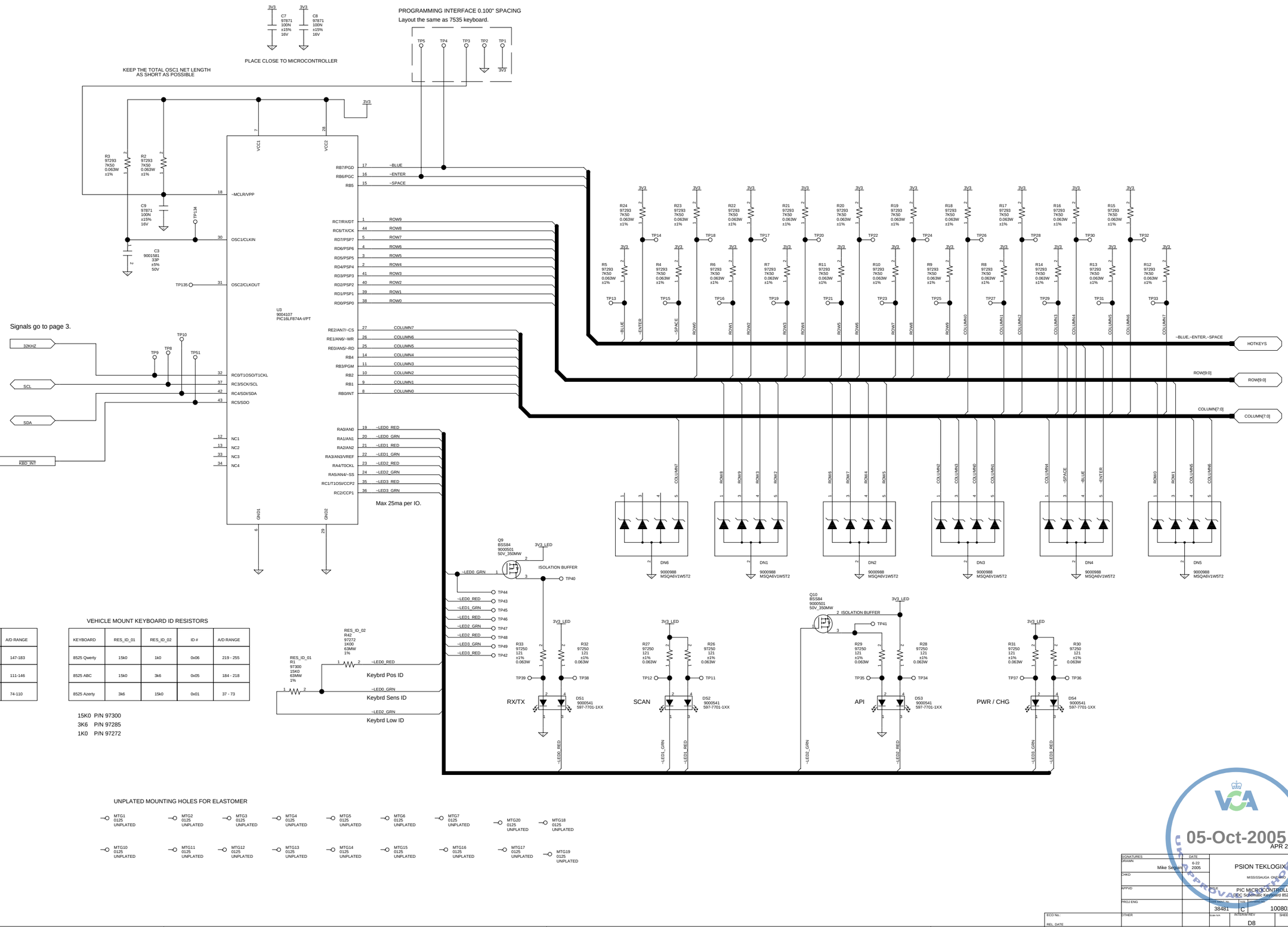
Page 3: Keypad Matrix

Page 4: Interface to MLB
PCB Heater

Page 5: Keypad EL Backlight Driver

05-Oct-2005
APR 26, 2005

SIGNATURES		DATE	
DRAWN	Mike Sergeant	2-22-2005	PSION TEKLOGIX INC. MISSISSAUGA ONTARIO
CHKD			
APPVD			TITLE: DDC Schematic Keyboard 8525/30
PROJ ENG			SIZE / Drawing No. 38481 / C / 1008024 / REV E
OTHER			Scale N/A / INTERIM REV D8 / SHEET 1 OF 5
ECO No.:			
REL. DATE			



HANDHELD KEYBOARD ID RESISTORS

KEYBOARD	R24	R25	ID #	A/D RANGE
62 KEY 7535	15k0	7k50	0x04	147-183
58 KEY 7535	7k50	7k50	0x03	111-146
36 KEY 7535	7k50	15k0	0x02	74-110

VEHICLE MOUNT KEYBOARD ID RESISTORS

KEYBOARD	RES_ID_01	RES_ID_02	ID #	A/D RANGE
8525 Qwerty	15k0	1k0	0x06	219 - 255
8525 ABC	15k0	3k6	0x05	184 - 218
8525 Azerty	3k6	15k0	0x01	37 - 73

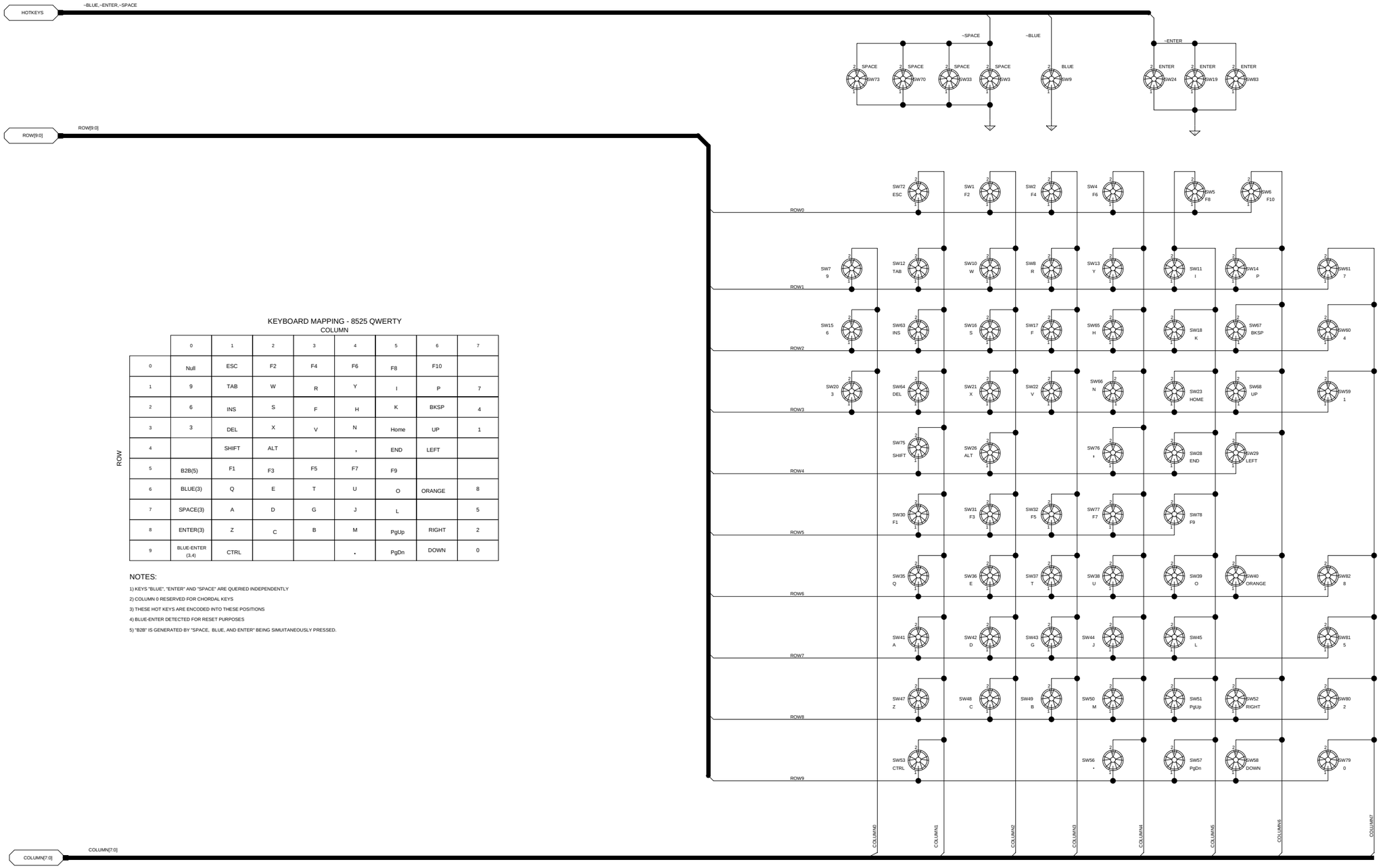
15K0 P/N 97300
3K6 P/N 97285
1K0 P/N 97272

UNPLATED MOUNTING HOLES FOR ELASTOMER

MTG1 0125 UNPLATED
MTG2 0125 UNPLATED
MTG3 0125 UNPLATED
MTG4 0125 UNPLATED
MTG5 0125 UNPLATED
MTG6 0125 UNPLATED
MTG7 0125 UNPLATED
MTG20 0125 UNPLATED
MTG18 0125 UNPLATED
MTG10 0125 UNPLATED
MTG11 0125 UNPLATED
MTG12 0125 UNPLATED
MTG13 0125 UNPLATED
MTG14 0125 UNPLATED
MTG15 0125 UNPLATED
MTG16 0125 UNPLATED
MTG17 0125 UNPLATED
MTG19 0125 UNPLATED

05-Oct-2005
APR 26, 2005

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN Mike Secord	6-22 2005	MISSISSAUGA ONTARIO	
CHKD		TITLE PIC MICROCONTROLLER DDC Schematic Keyboard 8525/30	
APP'VD			
PROJ ENG		PROJ MAST. NO. 38481	SIZE C / DOCUMENT NO. 1008024 / REV E
ECO No.:		Scale: N/A	INTERFACE REV D8 / SHEET 2 OF 5
REL. DATE	OTHER		



KEYBOARD MAPPING - 8525 QWERTY

ROW \ COLUMN	0	1	2	3	4	5	6	7
0	Null	ESC	F2	F4	F6	F8	F10	
1	9	TAB	W	R	Y	I	P	7
2	6	INS	S	F	H	K	BKSP	4
3	3	DEL	X	V	N	Home	UP	1
4		SHIFT	ALT		,	END	LEFT	
5	B2B(5)	F1	F3	F5	F7	F9		
6	BLUE(3)	Q	E	T	U	O	ORANGE	8
7	SPACE(3)	A	D	G	J	L		5
8	ENTER(3)	Z	C	B	M	PgUp	RIGHT	2
9	BLUE-ENTER (3,4)	CTRL			.	PgDn	DOWN	0

NOTES:

1) KEYS "BLUE", "ENTER" AND "SPACE" ARE QUERIED INDEPENDENTLY

2) COLUMN 0 RESERVED FOR CHORDAL KEYS

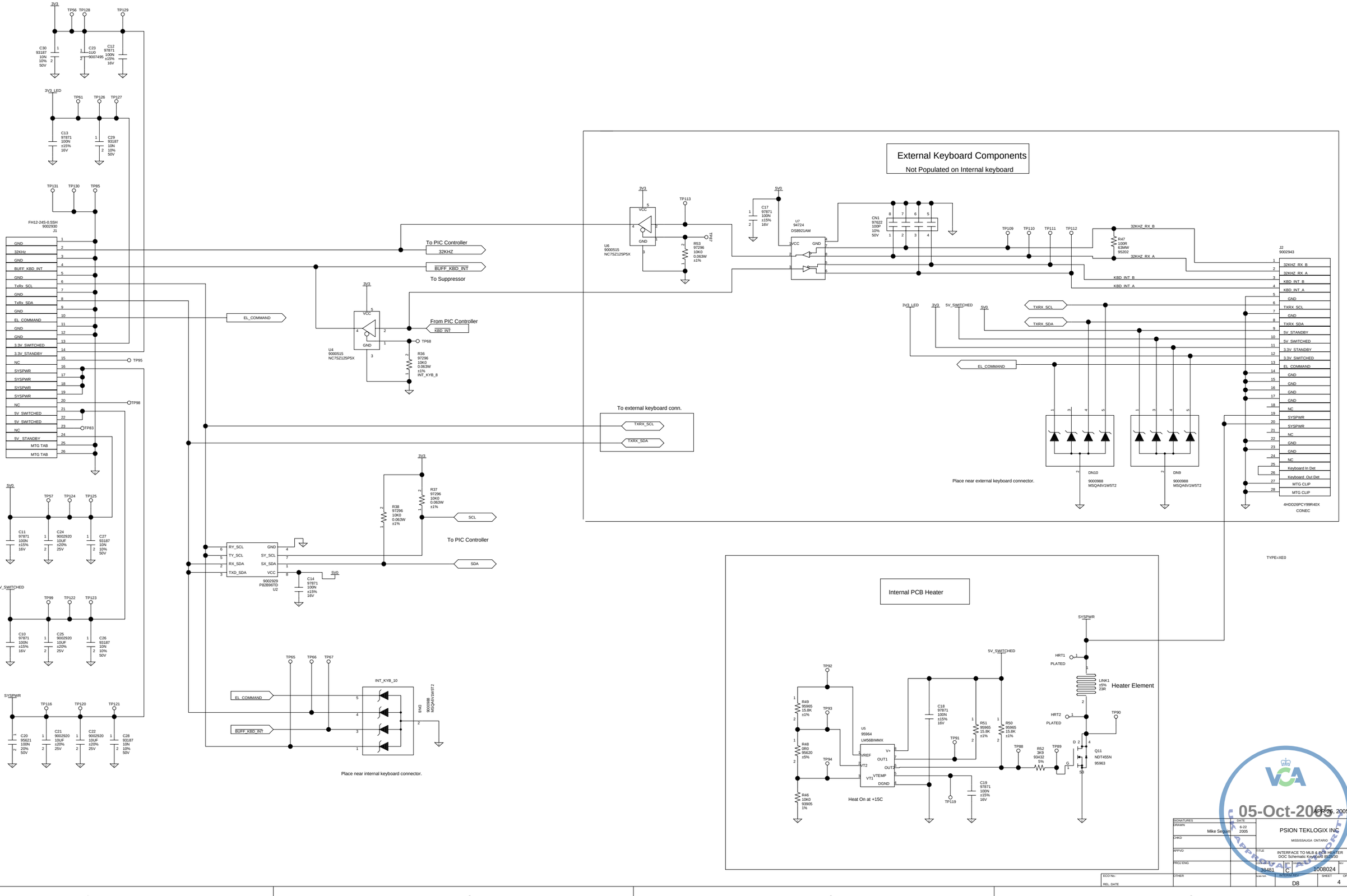
3) THESE HOT KEYS ARE ENCODED INTO THESE POSITIONS

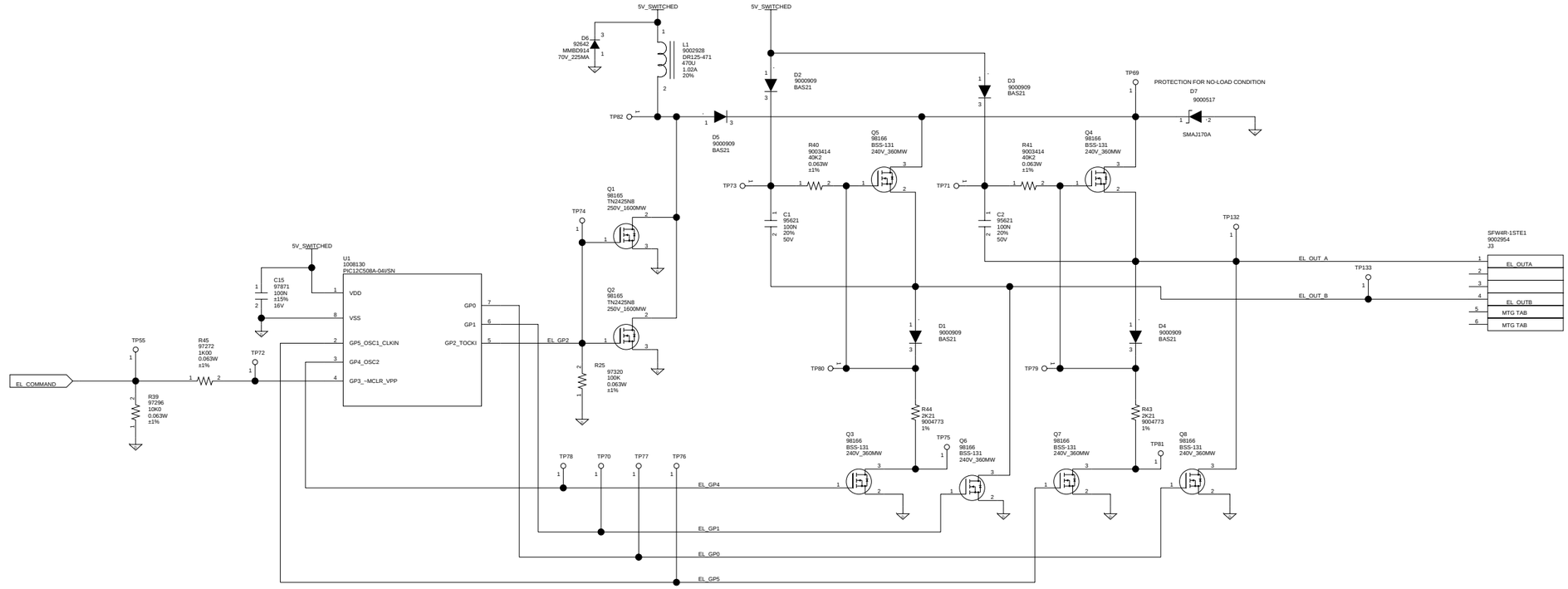
4) BLUE-ENTER DETECTED FOR RESET PURPOSES

5) "B2B" IS GENERATED BY "SPACE, BLUE, AND ENTER" BEING SIMUITANEOUSLY PRESSED.

05-Oct-2005
APR 26, 2005

SIGNATURES	DATE		
DRAWN Mike Sinclair	6-22 2005	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE KEYPAD MATRIX DOC Schematic Keypad 8525/30	
PROJ ENG		CAGE CODE, APL No., Drawing No.	REV
OTHER		38481 Scale N/A	C 1008024 E
ECO No.: REL DATE		INTERIM REV D8	SHEET 3 OF 5


3V3
TP56
TP128
TP129
C30 93187 10N 10% 50V
C23 1U0 9007495
C12 97871 100N ±15% 16V
3V3_LED
TP61
TP126
TP127
C13 97871 100N ±15% 16V
C29 93187 10N 10% 50V
TP131
TP130
TP85
FH12-24S-0.5SH 9002930
J1
GND
32KHz
GND
BUFF_KBD_INT
GND
TxRx_SCL
GND
TxRx_SDA
GND
EL_COMMAND
GND
GND
3.3V_SWITCHED
3.3V_STANDBY
NC
SYSPWR
SYSPWR
SYSPWR
SYSPWR
NC
5V_SWITCHED
5V_SWITCHED
NC
5V_STANDBY
MTG TAB
MTG TAB
TP95
TP98
TP83
5V0
TP57
TP124
TP125
C11 97871 100N ±15% 16V
C24 9002920 10UF ±20% 25V
C27 93187 10N 10% 50V
5V_SWITCHED
TP99
TP122
TP123
C10 97871 100N ±15% 16V
C25 9002920 10UF ±20% 25V
C26 93187 10N 10% 50V
SYSPWR
TP116
TP120
TP121
C20 95621 100N 20% 50V
C21 9002920 10UF ±20% 25V
C22 9002920 10UF ±20% 25V
C28 93187 10N 10% 50V
To PIC Controller
32KHZ
BUFF_KBD_INT
To Suppressor
EL_COMMAND
3V3
U4 9000515 NC7SZ125P5X
From PIC Controller
KBD_INT
TP68
R36 97296 10K0 0.063W ±1% INT_KYB_8
To external keyboard conn.
TXRX_SCL
TXRX_SDA
3V3
R38 97296 10K0 0.063W ±1%
R37 97296 10K0 0.063W ±1%
SCL
SDA
To PIC Controller
RY_SCL
TY_SCL
RX_SDA
TXD_SDA
GND
SY_SCL
SX_SDA
VCC
9002929 P82B96TD U2
5V0
C14 97871 100N ±15% 16V
TP65
TP66
TP67
EL_COMMAND
BUFF_KBD_INT
INT_KYB_10
RN3 9000988 MSQA6V1W5T2
Place near internal keyboard connector.
External Keyboard Components
Not Populated on Internal keyboard
3V3
TP113
U6 9000515 NC7SZ125P5X
R53 97296 10K0 0.063W ±1%
5V0
C17 97871 100N ±15% 16V
U7 94724 DS8921AM
VCC
GND
CN1 97622 100P 10% 50V
TP109
TP110
TP111
TP112
32KHZ_RX_B
R47 100R 63MW 95202
32KHZ_RX_A
KBD_INT_B
KBD_INT_A
3V3_LED
3V3
5V_SWITCHED
5V0
TXRX_SCL
TXRX_SDA
EL_COMMAND
DN10 9000988 MSQA6V1W5T2
DN9 9000988 MSQA6V1W5T2
Place near external keyboard connector.
J2 9002943
32KHZ_RX_B
32KHZ_RX_A
KBD_INT_B
KBD_INT_A
GND
TXRX_SCL
GND
TXRX_SDA
5V_STANDBY
5V_SWITCHED
3.3V_STANDBY
3.3V_SWITCHED
EL_COMMAND
GND
GND
GND
GND
NC
SYSPWR
SYSPWR
NC
GND
GND
NC
Keyboard In Det
Keyboard_Out Det
MTG CLIP
MTG CLIP
4HDD26PCY99R40X
CONEC
TYPE=XE0
Internal PCB Heater
SYSPWR
5V_SWITCHED
TP92
TP93
TP94
R49 95965 15.8K ±1%
R48 980 95620 ±5%
R46 10K0 93905 1%
U5 95964 LM56BIMMX
VREF
VT2
VT1
V+
OUT1
OUT2
VTEMP
DGND
Heat On at +15C
C18 97871 100N ±15% 16V
TP91
TP119
C19 97871 100N ±15% 16V
RS1 95965 15.8K ±1%
R50 95965 15.8K ±1%
TP88
R52 3K9 93432 5%
TP89
HRT1
HRT2
PLATED
LINK1 ±5% 23R
Heater Element
TP90
Q11 NDT455N 95963
05-Oct-2005
APR 26, 2005
PRELIMINARY NOT APPROVED FOR PRODUCTION
SIGNATURES
DRAWN Mike Seguin 6-22 2005
CHKD
APPVD
PROJ ENG
PSION TEKLOGIX INC
MISSISSAUGA ONTARIO
TITLE
INTERFACE TO MLB & PCB HEATER
DOC Schematic Keyboard 8000030
38481
C
1008024
E
D8
SHEET 4 OF 5
ECO No.:
REL. DATE
OTHER



KEYPAD EL BACKLIGHT DRIVER

05-Oct-2005
APR 26 2005

SIGNATURES	DATE	PSION TEKLOGIX INC		
DRAWN Mike Sergun	6-22 2005	MISSISSAUGA ONTARIO		
CHKD				
APPVD		TITLE KEYPAD EL BACKLIGHT DRIVER DOC Schema EAKmod 1525/30		
PROJ ENG		DOCK IDENT. NO. 38491	SIZE C	Mechanical NO. 1008024
OTHER		Scale N/A	INTERIM REV D8	REV E
ECO No.:			SHEET 5	OF 5
REL DATE				

8530 - DISPLAY TRANSITION BOARD; SHARP LQ104S1DG21 COLOUR LCD

SCHEMATIC INDEX

Page 2: Main Logic Board (MLB) Interface
LCD Power Control

Page 3: Touch Screen Controller, Back Light Control

Page 4: Sharp TFT Color Display Interface

REFERENCE DESIGNATOR	BaaN P/N	REV	DESCRIPTION	QTY
PCB1	1008461-200	A	PCB DISPLAY TRANSITION BOARD, 8530 LCD	1
DOC1	1008460-200	A	DOC PCB ARTWORK 8530 DTB COLOUR DISPLAY TRANSITION BD	0
DOC2	1008463-200	A	DOC PCB ASSY DWG 8530 COLOUR DISPLAY TRANSITION BOARD	0
DOC3	1008464-200	A	DOC SCHEMATIC 8530 COLOUR DISPLAY TRANSITION BOARD	0
DOC4	1010084	A	DOC SERIAL NUMBER CODING INSTR.	0
LBL1	1008087	A	LABEL BLANK PCA 0.25"X1.0" WHITE MYLAR 0.002" THICK	1
LBL2	95565	A	LABEL 0.25" X 0.25" WHITE	1

CONFIGURATION DETAIL		
BaaN P/N	REV	DESCRIPTION
1008465-200	A	8530 DISPLAY TRANSITION BOARD

UK APPROVAL AUTHORITY
05 SEP 2006

MISSISSAUGA
ONTARIO, CANADA

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8530 DISPLAY TRANSITION BOARD

SIZE	DRAWING NO.	REV
D	1008464-200	A

LAST PRINT DATE	SHEET	OF
DD-MMM-YY	1	4

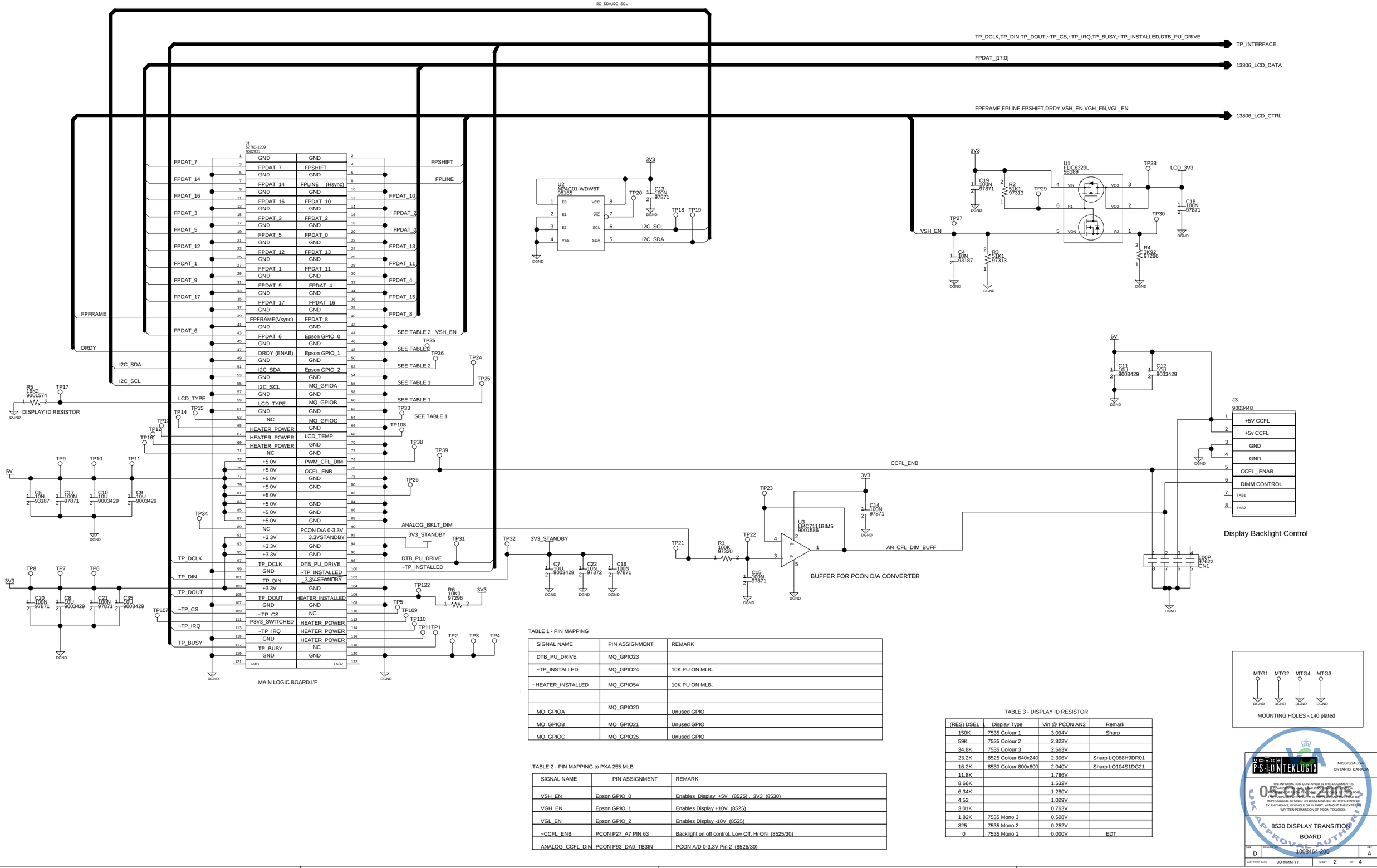

TABLE 1 - PIN MAPPING

SIGNAL NAME	PIN ASSIGNMENT	REMARK
DTB_PU_DRIVE	MQ_GPIO23	
~TP_INSTALLED	MQ_GPIO24	10K PU ON MLB.
~HEATER_INSTALLED	MQ_GPIO54	10K PU ON MLB.
MQ_GPIOA	MQ_GPIO20	Unused GPIO
MQ_GPIOB	MQ_GPIO21	Unused GPIO
MQ_GPIOC	MQ_GPIO25	Unused GPIO

TABLE 2 - PIN MAPPING to PXA 255 MLB

SIGNAL NAME	PIN ASSIGNMENT	REMARK
VSH_EN	Epson GPIO_0	Enables Display +5V (8525) , 3V3 (8530)
VGH_EN	Epson GPIO_1	Enables Display +10V (8525)
VGL_EN	Epson GPIO_2	Enables Display -10V (8525)
~CCFL_ENB	PCON P27_A7 PIN 63	Backlight on off control. Low Off, Hi ON (8525/30)
ANALOG_CCFL_DIM	PCON P93_DA0_TB3IN	PCON A/D 0-3.3V Pin 2 (8525/30)

TABLE 3 - DISPLAY ID RESISTOR

(RES) DSEL	Display Type	Vin @ PCON AN3	Remark
150K	7535 Colour 1	3.094V	Sharp
59K	7535 Colour 2	2.822V	
34.8K	7535 Colour 3	2.563V	
23.2K	8525 Colour 640x240	2.306V	Sharp LQ088H9DR01
16.2K	8530 Colour 800x600	2.040V	Sharp LQ104S1DG21
11.8K		1.786V	
8.66K		1.532V	
6.34K		1.280V	
4.53		1.029V	
3.01K		0.763V	
1.82K	7535 Mono 3	0.508V	
825	7535 Mono 2	0.252V	
0	7535 Mono 1	0.000V	EDT

MTG1 MTG2 MTG4 MTG3

MOUNTING HOLES -.140 plated

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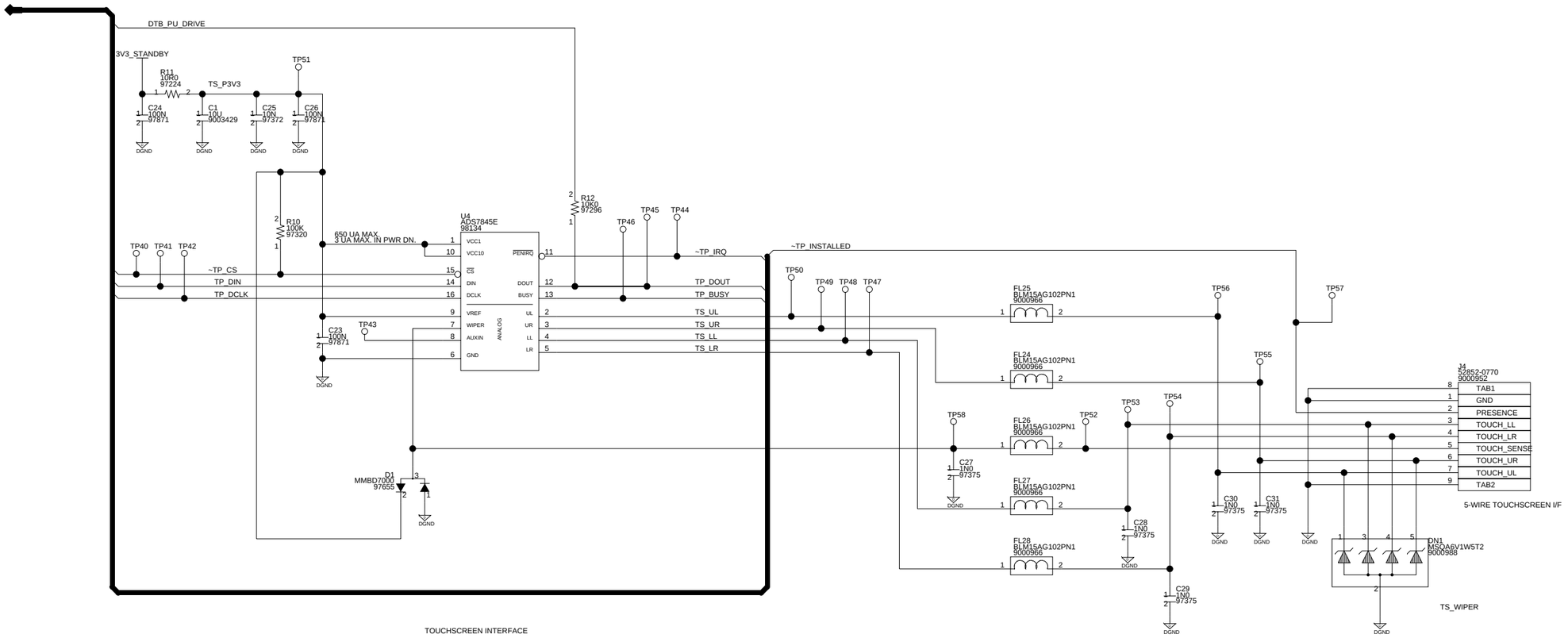
8530 DISPLAY TRANSITION BOARD

SIZE	DRAWING NO	REV
D	1008464-200	A
LAST PRINT DATE	DD-MMM-YY	SHEET 2 OF 4

A B C D

1 2 3 4



TOUCHSCREEN INTERFACE

UK APPROVAL AUTHORITY
05 Oct 2005

PSION TEKLOGIX MISSISSAUGA ONTARIO, CANADA

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8530 DISPLAY TRANSITION BOARD

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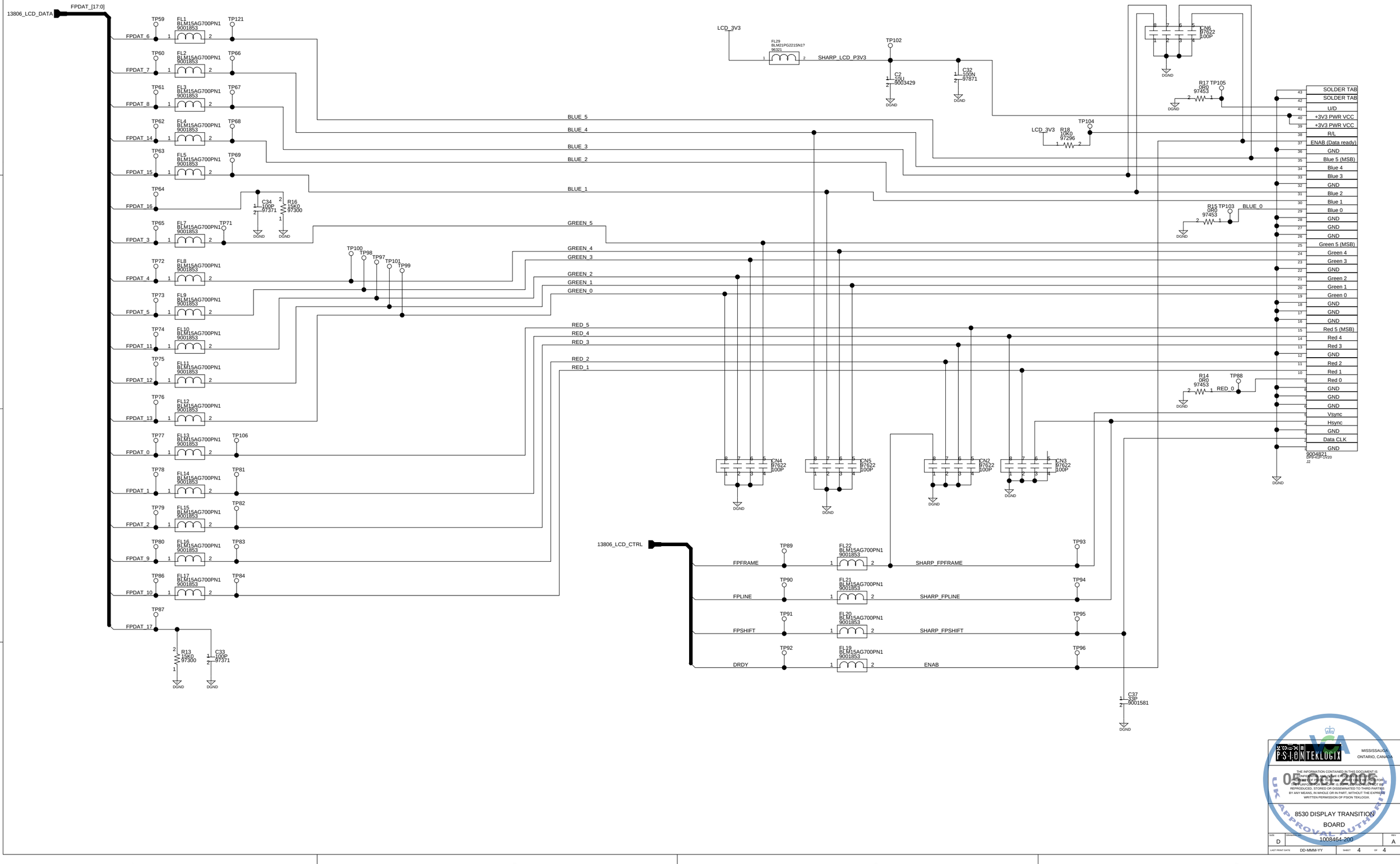
D	1008464-200	A

LAST PRINT DATE	SHEET	OF
DD-MMM-YY	3	4



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MISSISSAUGA, ONTARIO, CANADA

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8530 DISPLAY TRANSITION BOARD

SIZE	DRAWING NO.	REV
D	1008464-200	A
LAST PRINT DATE: DD-MMM-YY	SHEET 4 OF 4	

8525/8530 VEHICLE MOUNT COMPUTER

MAIN LOGIC BOARD

SCHEMATIC INDEX

Page 2: PXA255 CPU

Page 3: SDRAM
NAND flash
M-SYSTEMS flash

Page 4: Address & Data bus switches

Page 5: Peripheral Microcontroller (PCON)
EEPROM
Real Time Clock
Battery Monitor
PCON Programming I/F
PCON Console

Page 6: Buffer ASIC

Page 7: ASIC Support Circuitry
CF / PCMCIA Power Swtiches

Page 8: CF Card / PCMCIA Interface

Page 9: MQ1188 - SDIO/USB Controller
MQ 1188 DC-DC Converter

Page 10: Spread Spectrum Generator

Page 11: LCD Controller

Page 12: SDIO Socket
Display Transition Board (DTB) Connector

Page 13: SMBus Battery Charger
Inrush Current Limiter

Page 14: 3V3/5V Power Supply
3V3/5V Switched Power
3V3 Standby Regulator
CPU Core Supply

Page 15 : Supercap Charger
Analog Mux Supply
5V Standby Regulator

Page 16: Tether Port
RS-232 Transceiver

Page 17: USB Hub
Port Extender Interface

Page 18: COM2 RS-232 port
Console RS-232 Port

Page 19: Battery interface
Beeper Driver
External Supply Inrush Limiter

Page 20: Internal Keyboard interface
External Keyboard interface

Page 21: Audio header
J-Tag Interface

Page 22: Heater

Special Component Detail

Related Reference Designator	BaaN P/N	Description	Qty
PCB1	1008011	PCB 8525 MAIN LOGIC BOARD	1
CON1	9003441	CONNECTOR DOUBLE SLOT CARDBUS EJECTOR REVERSE TYPE 2MM STANDOFF	1
SCR1-SCR4	9002961	SCREW M2 X 20 PAN HEAD	4
SCR5,SCR6	9001802	SCREW M2 X 8 CHEESE PHIL	2
NUT1- NUT6	95257	NUT M2 PCMCIA	6
WRS1-WSR4	9004474	M2 LOCKWASHER, STAINLESS STEEL, FLAT,INTERNAL TOOTH	4
WSR5-WSR8	9004475	WASHER,STAINLESS STEEL,M2,FLAT	4
ADH1-ADH4	94751	ADH SILICON RTV WHT RTV162	0.001
ADH5-ADH10	92075	LOCTITE	0.001
LBL1	95565	LABEL 0.25" X 0.25" WHITE	1
LBL2,LBL3	1008087	LABEL BLANK PCA 0.25"X1.0" WHITE MYLAR 0.002" THICK	2
S/W 1	1002024	SOFTWARE 8525 PCON IMAGE	1
S/W 2	1002025	SOFTWARE 8525 BOOST IMAGE	1
S/W 3	1002023	SOFTWARE 8525 CE V4.2 OTT IMAGE	1
DOC1	1008010	DOCUMENT ARTWORK PCB 8525/30 MAIN LOGIC BOARD	0
DOC2	1008013	DOCUMENT PCB ASSEMBLY 8525/30 MAIN LOGIC BOARD	0
DOC3	1008014	DOCUMENT SCHEMATIC 8525/30 MAIN LOGIC BOARD	0
DOC4	7000530-200	DOCUMENT 8525 MLB PRODUCTION FUNCTIONAL TEST SPECIFICATION	0
DOC5	1010084	DOC SERIAL NUMBER CODING INST	0

I2C DEVICE MAPPING

DEVICE	8-BIT ADDRESS	7-BIT ADDRESS
REAL TIME CLOCK - RV5C386A	32H	64H
TEMPERATURE A/D - PCF8591T	48H	90H
PCON - M30624FGPGP-D5	08H	10H
MLB EEPROM - M24C01WDW6T	53H	A6H
DTB EEPROM - M24C01WDW6T	52H	A4H
BATTERY PACK EEPROM - M24C01WDW6T	50H	A0H
BATTERY PACK CONTROLLER - BQ2060	0BH	16H
KEYBOARD CONTROLLER	33H	66H

05-Oct-2005

SIGNATURES	DATE	PSION TEKLOGIX INC			
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO			
CHKD		TITLE DOC SCHEMATIC 8525/30 MAIN LOGIC BOARD			
APPVD		CODE IDENT. NO.	SIZE	DRAWING NO.	REV
PROJ ENG		28481	C	1008014	J
OTHER		Scale N/A	INTERIM REV H3	SHEET 1	OF 22
ECO No.: REL. DATE					

PXA255

GDPXA255A0E400

U1
9003333

CORE VDD

Power / Clock

- FL4 98136 BLM21A102S? 200MA
- C134 94054 1U0 ±10% 16V
- C182 97871 100N ±15% 16V
- C183 97871 100N ±15% 16V
- U20 NC7SP08P5X 9001584
- 3MHZ6864
- CLK_3M6864_CORE
- R204 97296 10K0 0.063W ±1%
- R203 97296 10K0 0.063W ±1%
- X4 FSR327 9001596
- C14 97365 12P 5% 50V
- C15 97365 12P 5% 50V
- R176 97232 22R1 ±1% 0.063W
- R305 97296 10K0 0.063W ±1%
- C181 97871 100N ±15% 16V
- C180 97871 100N ±15% 16V
- C179 97871 100N ±15% 16V
- C178 97871 100N ±15% 16V
- C177 97871 100N ±15% 16V
- C176 97871 100N ±15% 16V
- C175 97871 100N ±15% 16V

Memory / SDRAM

- SDRAM_CTL
- R149 97296 10K0 0.063W ±1%
- R145 97296 10K0 0.063W ±1%
- R210 97296 10K0 0.063W ±1%
- R205 97296 10K0 0.063W ±1%
- ~SDCS3
- ~SDCS2
- ~SDCS1
- ~SDCS0
- ~SDRAS
- ~SDCAS
- SDCKE1
- SDCLK2
- SDCLK1
- DRAMCLKA
- DRAMCLKB
- DRAMCLKC
- DRAMCLKD
- R174 97232 22R1 ±1% 0.063W
- R35 97232 22R1 ±1% 0.063W
- R49 97232 22R1 ±1% 0.063W
- R65 97232 22R1 ±1% 0.063W
- R131 97232 22R1 ±1% 0.063W
- R206 97296 10K0 0.063W ±1%
- R138 0R0 97453
- ~SDWE
- ~MWE
- MRDY
- ~LCD_CS3
- ~ASIC_CS5
- ~MQ1188_CS2
- ~FLASH_CS1
- ~CS0
- ~OE
- ~WE
- RD_~WR
- TP13
- TP150
- TP37

Signal Groups

- MEM_CTL
- SSP_BUS
- NAND_FLASH_BUS
- COM2
- ~SA2_RESET
- COREVDD_EN
- ~BATT_FAULT
- ~VDD_FAULT
- CONSOLE_RXD_SW
- SA2_TXD
- JTAG_BUS
- TCK_CPU
- TDI_CPU
- TDO_CPU
- TMS_CPU
- ~TRST_CPU
- D[31:0]
- A[25:0]

Pin Table

Pin	Signal
J15	PLL_VCC
J16	PLL_VSS
K16	PEXTAL
K15	PXTAL
L15	TEXTAL
L16	TXTAL
F13	BOOT_SEL2
G13	BOOT_SEL1
G16	BOOT_SEL0
J13	~RESET
K11	~RESET_OUT
L11	PWR_EN
K12	~BATT_FAULT
K13	~VDD_FAULT
L7	DQM3
B2	DQM2
B1	DQM1
M8	DQM0
F2	~SDCS3
G3	~SDCS2
G6	~SDCS1
F1	~SDCS0
E1	~SDRAS
F3	~SDCAS
E3	SDCKE1
E4	SDCKE0
D1	SDCLK2
F5	SDCLK1
D2	SDCLK0
T13	~CS5_GP33
R13	~CS4_GP80
T9	~CS3_GP79
P9	~CS2_GP78
T8	~CS1_GP15
N8	~CS0
G5	~OE
G4	~WE
D3	RD_~WR
C1	RDY_GP18
N14	DREQ1_GP19
N12	DREQ0_GP20
M12	GP22
N15	GP21
A13	FFRXD_GP34
E13	FFTXD_GP39
A14	FFCTS_GP35
A12	FFDCD_GP36
B11	FFDSR_GP37
B10	FFRI_GP38
F10	FFDTR_GP40
F8	FFRTS_GP41
B15	IRRXD_GP46
C15	IRTXD_GP47
C12	USB_P
B12	USB_N
H12	TCK
H15	TDI
H16	TDO
H13	TMS
H11	~TRST
G12	TEST
G11	TESTCLK

Power Rails

- VCCQ = POSITIVE SUPPLY FAR ALL I/O EXCEPT MEMORY BUS AND PCMCIA
- VCCQ: DVDD_3V3;C6,C10,C13,E14,G14,D15,M11
- VCCN = POSITIVE SUPPLY FOR MEMORY BUS AND PCMCIA
- VCCN DVDD_3V3;A1,D4,F4,K4,M4,M14,H4,N5,N7,N9,N11,N13,P3,T16,T2
- VSS = CORE GROUND
- VSS: DGND;C16,J8,J9,H8,H9,T1
- VSSQ = GROUND SUPLLY FOR ALL I/O EXCEPT MEMORY BUS AND PCMCIA
- VSSQ: DGND;C11,C14,F6,G8,G10,C4,C8,J10,J14,L14,H7,K7,K9,F15,F16,D16,E15,E16
- VSSN = GROUND SUPLLY FOR MEMORY BUS AND PCMCIA
- VSSN: DGND;E2,G2,C2,J2,M15,P15,R2,R4,R6,R8,R10,R12,L2,N2,R14

LCD CONTROLLER PINS

- NAND_FLASH_BUS
- CF_IN
- ~MOTION_DETECT
- EN_COM2_PWR
- ~SS_PWR_DWN
- EXT_SCAN
- ~ASIC_ACK
- COM2_EN
- ~COM2_AUTO_ONLINE
- S2_CARD_ERROR
- ~MQ1188_PWRDN
- ~SS_CLK_PWR_EN
- PC_IN
- AC_LINK

AC97 CONTROLLER

- R101 97232 22R1 ±1% 0.063W
- R95 97232 22R1 ±1% 0.063W
- ACLINK_SDATAOUT
- ACLINK_SYNC
- ~ACLINK_RESETB

SSP PINS

- TP211
- TP605
- TP604
- TP602
- R177 97232 22R1 ±1% 0.063W
- SSP_BUS
- CAS_LATENCY

Bluetooth UART

- COM1_BUS
- COM1_RXD
- COM1_TXD
- ~COM1_CTS
- ~COM1_RTS

PWM

- BEEPER
- BEEPER_VOLUME
- BEEPER_SIGNAL

GPIO PINS

- MB_REQ
- NAND_FLASH_BUS
- MBREQ
- MBGNT
- ~NAND_WRITE_PROTECT
- PXA_3M6864_OUT
- R175 97232 22R1 ±1% 0.063W
- CLK_3M6864
- ~RTC_IRQB
- ~MQ1188_IRQ
- FIQ
- ~PCON_IRQ
- TP5
- TP29
- TP30

PCMCIA/CF CONTROL PINS

- PSKTSEL
- ~PREG
- ~PCE1
- ~PCE2
- ~PIOR
- ~PIOW
- ~POE
- ~PWE
- ~PWAIT
- ~IOIS16
- PCM_IN

I2C / MMC

- MMC Controller
- I2C Controller
- MMCCMD
- MMCDAT
- SCL
- SDA
- TP17
- TP18
- R207 97296 10K0 0.063W ±1%
- R208 97296 10K0 0.063W ±1%
- I2C_BUS_SW
- TP31
- TP32

Misc

- R613 97320 100K 0.063W ±1%
- R213 97296 10K0 0.063W ±1%
- R212 97296 10K0 0.063W ±1%
- R215 97296 10K0 0.063W ±1%
- TP22
- TP36
- C76 9003429 10U +80%/-20% 16V
- C77 9003429 10U +80%/-20% 16V
- C78 9003429 10U +80%/-20% 16V
- C167 97871 100N ±15% 16V
- C168 97871 100N ±15% 16V
- C169 97871 100N ±15% 16V
- C170 97871 100N ±15% 16V
- C285 97372 10N ±5% 16V
- C171 97871 100N ±15% 16V
- C172 97871 100N ±15% 16V
- C173 97871 100N ±15% 16V
- C174 97871 100N ±15% 16V
- C276 97372 10N ±5% 16V
- C162 97871 100N ±15% 16V
- C163 97871 100N ±15% 16V
- C164 97871 100N ±15% 16V
- C165 97871 100N ±15% 16V
- C166 97871 100N ±15% 16V
- C275 97372 10N ±5% 16V

Right-side Peripherals

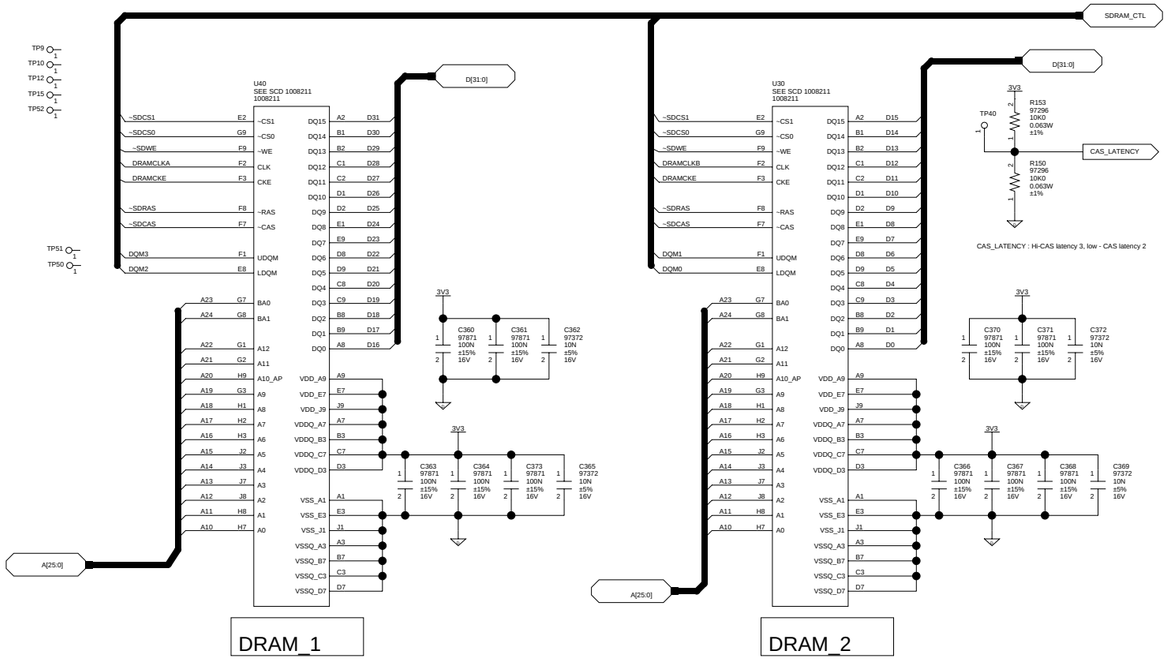
- U29 9001597 SN74CBTLV3126DGVR
- 3V3_STANDBY
- C184 97871 100N ±15% 16V
- PCON_CONSOLE
- I2C_BUS
- CONSOLE_RXD
- I2C_SDA
- I2C_SCL
- R125 97296 10K0 0.063W ±1%
- ~SA2_RESET
- TP35
- R363 97272 1K00 0.063W ±1%
- TP27
- LOW_ENERGY_LATCH
- IRQ_BUS
- TP19
- R186 97296 ±1% 0.063W
- R209 97296 ±1% 0.063W
- TP33

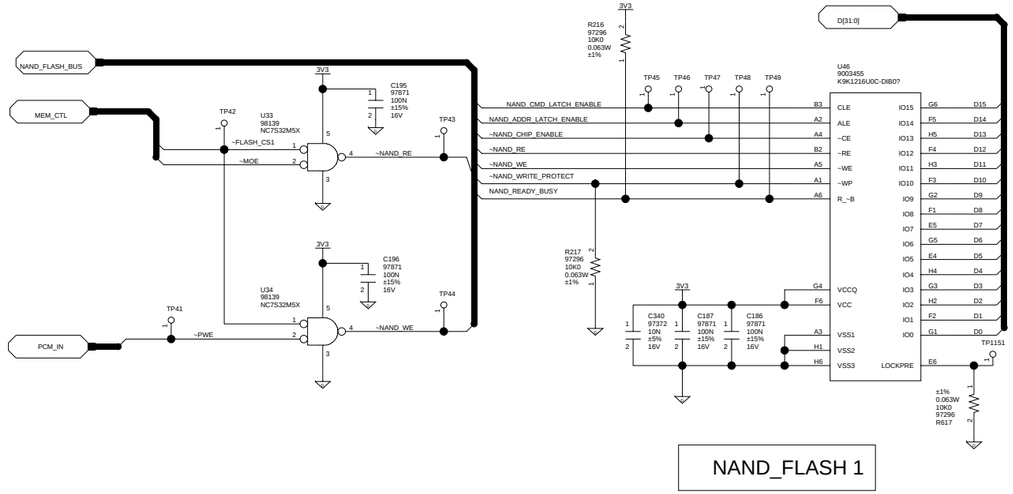
SDRAM_CTL (duplicate)

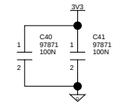
- SDCKE1
- R630 97296 10K0 0.063W ±1%
- C1129 97871 100N ±15% 16V
- SN74CBTLV1G125DCKR 9004509 U103
- DRAMCKE
- R628 97320 100K 0.063W ±1%
- TP2
- R178 97232 22R1 ±1% 0.063W
- CLK_48MHZ
- TP20
- ~ASIC_REQ

Revision Block

- 05-Oct-2005
- OCTOBER 20 2004
- APPROVED
- SIGNATURES
- DRAWN: NGT TEAM
- DATE: NOV 1 2004
- CHKD
- APPVD
- PROJ ENG
- PSION TEKLOGIX INC
- MISSISSAUGA ONTARIO
- TITLE: SCHEMATIC 8525/30 MAIN LOGIC BOARD PXA255 PROCESSOR
- CODE IDENT NO: 38481
- SIZE: C
- DWG NO: 1008014
- REV: H
- ECO No.:
- REL DATE
- OTHER
- Scale: NA
- INTERIM REV
- SHEET: 2 OF 22

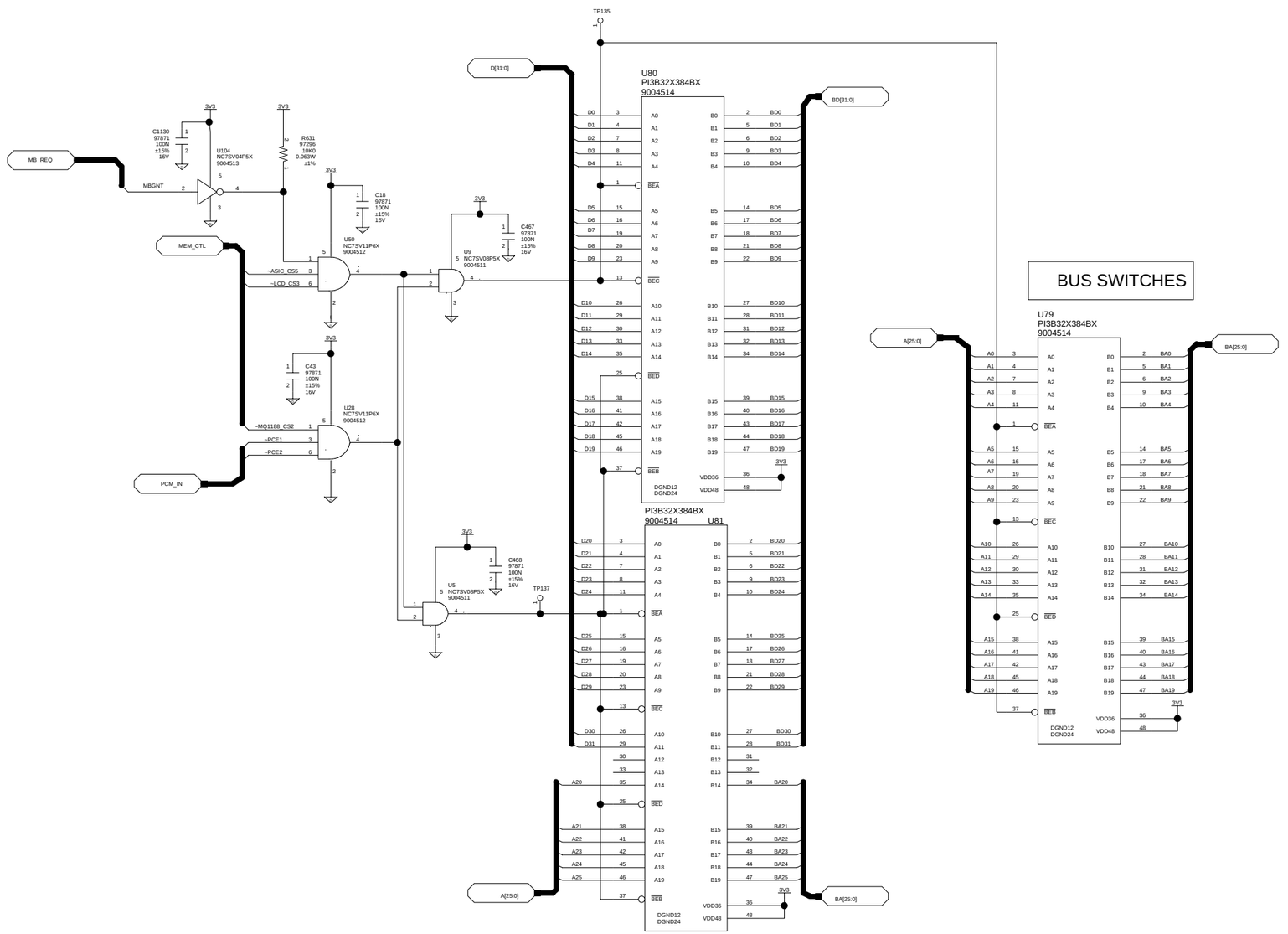






05-Oct-2005
OCTOBER 20 2004
APPROVAL

SIGNATURES	DATE		
DRAWN NGT TEAM	NOV 1 2004	PSION TEKLOGIX INC MISSISSAUGA ONTARIO	
CHKD			
APP'VD		TITLE SCHEMATIC 8525/8530 MAIN LOGIC BOARD MEMORY	
PROJ ENG		CODE IDENT. NO. 38481	SIZE C	DRAWING NO. 1008014	REV J
OTHER		Scale N/A	INTERIM REV	SHEET 3	OF 22
ECO No.: REL DATE					



05-Oct-2005

OCTOBER 20 2004

SIGNATURES	DATE		
DRAWN NGT TEAM	NOV 1 2004	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE SCHEMATIC B525/9530 MAIN LOGIC BOARD ADDRESS & DATA BUS SWITCHES	
PROJ ENG		CODE IDENT. NO. 38481	DRAWING NO. C 1008014 REV H
OTHER		Scale N/A	INTERIM REV SHEET 4 OF 22
ECO No.: REL DATE			

PCON

I2C ACCELERATOR

PCON CONSOLE

EEPROM

OPTION SELECT

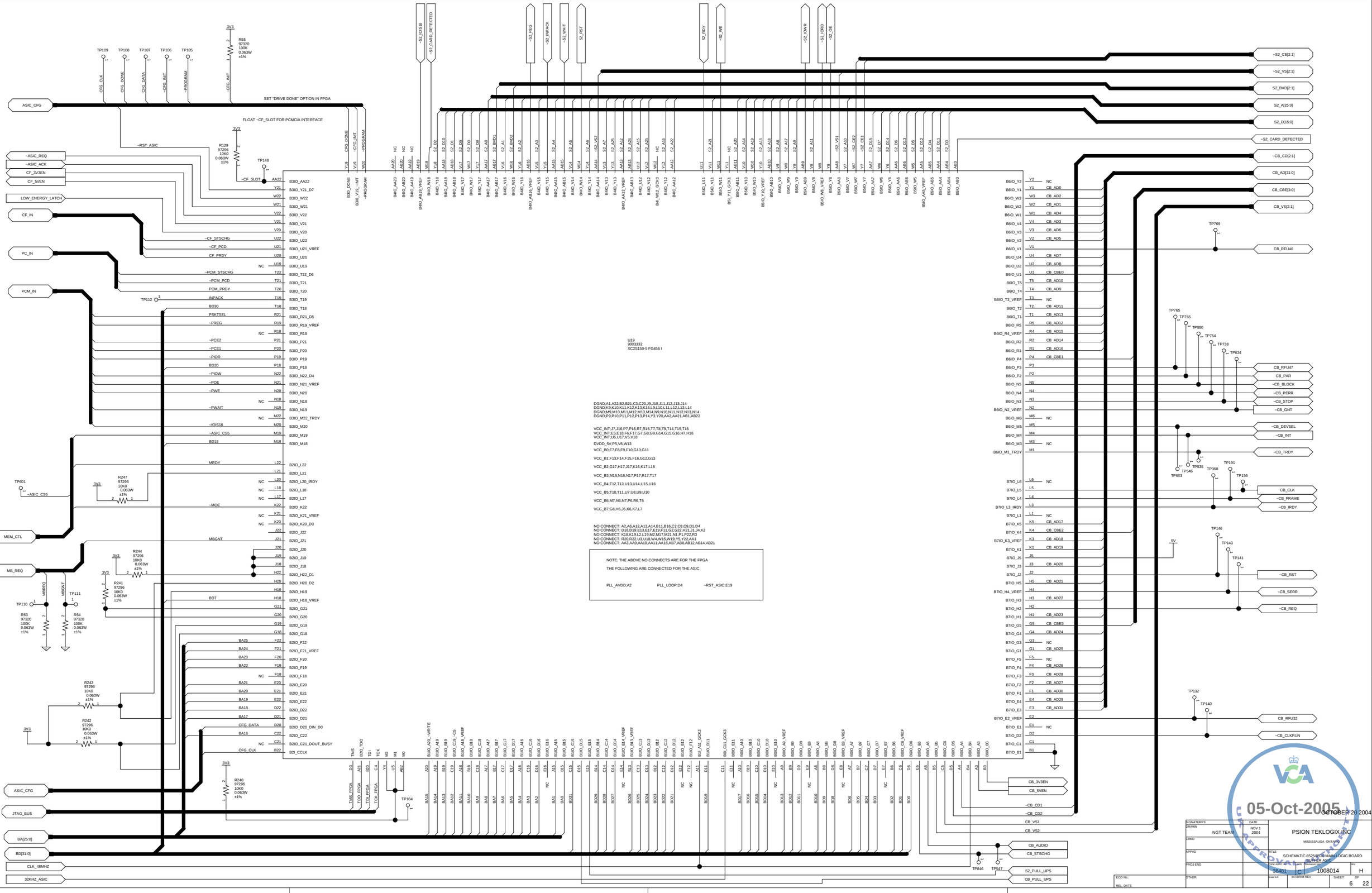
POWER SWITCH

BATT_MONITOR

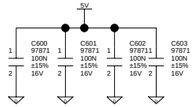
~RST_PCON
PROGRAM_PCON
~CE_PROG
SERIAL_PROG
SCLK_PROG
** USED FOR TERMINAL SELECTION
PERIPHERAL CONTROLLER
U65 M30624FGPGP-D3C 9003331
X3 ABMC2-7.3728MHZ-18-100-D 9003434
~3V3_PWR_OFF
~5V_PWR_OFF
~SA2_RESET
HICOREVDD_EN
A2D_RATIOMETRIC_DRIVE
PCON_A/D_BUS
REQUEST_SSP_XFER
SSP_BUS
SSPSCLK
SSPSFRM
SSPTXD
SSPRXD
PCON_CLK0
SCLK_PROG
I2C_SDA
I2C_SCL
LOW_ENERGY_LATCH
LOW_ENERGY
PWR_SYNC_CLK
~BATT_FAULT
3MHZ6864
COREVDD_EN
ENABLE_32KHZ
EXT_SCAN
~NMI
CORE_EN
~POWER_ON
EXT_SCNR_SOS
EXT_SCNR_DATA
EL_COMMAND
ANALOG_CCFL_DIM
VTERM_DAC
CHARGE_EN
ACPRES
~ACSEL
TETHER_ID
AUX_ID
LCD_TYPE
OPTIONS_A_D
BATTERY_VOLTAGE
LCD_THERM
PCON_AVSS
SIGNAL=DGND:12,62
AVCC
CMP
VREF
AVCC
AVSS
FL5
98136 BLM21A102S? 200MA
USE 128K FLASH PART WITH ASIC
USE 256K FLASH PART WITH FPGA
M30624FGPGP
MLB TEMPERATURE
EN_SW_PWR
TETHER_POWER_ON
BAT_PRES
~EXT_KYBD_DETECT
RADIO_HEATER
LCD_HEATER_CTL
EN_AUX_PORT_PWR
MLB_HEATER_EN
KEYBOARD_HEATER_EN
~EXT_KYBD_PWR_EN
PCON_CONSOLE
EXT_SCAN
~MOTION_DETECT
FPGA_CFG
JTAG_BUS
IRQ_BUS
COM3_1_EN
TETHER_SEL_1
TETHER_SEL_0
~TP_IRQ
GND_TETHER_POWER
CONVERTER_ENABLE
DISPLAY_CFG
CONSOLE_TXD_SEL
CFG_DONE
~CFG_INIT
~KBD_IRQ
~PROGRAM
CFG_CLK
CFG_DATA
~RST_ASIC
~RTC_IRQB
~CCFL_EN
TDO_CPU
TMS_CPU
TCK_CPU
~TRST_CPU
TDI_CPU
~PCON_IRQ
~HEATER_INSTALLED
CCFL_EN
VBAT_MAIN_IN
BATTERY_VOLTAGE
PCON_CONSOLE_RXD
CONSOLE_RXD
PCON_CONSOLE_TXD
PCON_CONSOLE
DEBUG ONLY
DO NOT POPULATE
P7 9001855 TSW-102-07-G-S-RA
P6 9001855 TSW-102-07-G-S-RA
J9 900646
53261-0271 MOLEX
RTC_SUPPLY
FSR327 9001596
XS
U15 RV5C386A 98184
I2C_BUS
IRQ_BUS
U12 9000568 LTC1694IS5
U22 M24C01WDW6T 98185
U41 9000515 NC7SZ125P5X
Q52 BSS84 9000501 50V_350MW
Q6 97634 FDV303N 25V_350MW
Q10 97634 FDV303N 25V_350MW
U35 98139 NC7S32M5X
U38 97866 LPV521M7
A2D_RATIOMETRIC_DRIVE
** USED FOR OPTION SELECTION
I/O PORT P0
I/O PORT P1
I/O PORT P2
I/O PORT P3
I/O PORT P4
I/O PORT P5
I/O PORT P6
I/O PORT P7
I/O PORT P8
I/O PORT P9
I/O PORT P10

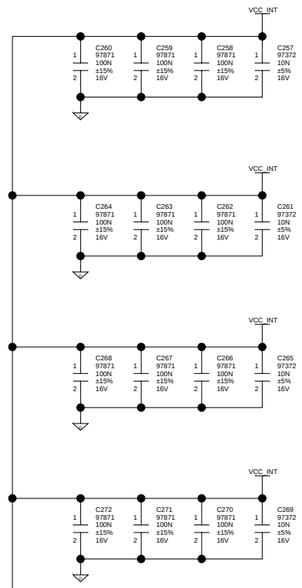
05-Oct-2005
OCTOBER 20 2004

SIGNATURES	DATE		
DRAWN NGT TEAM	NOV 1 2004	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD PERIPHERAL CONTROLLER	
PROJ ENG		CAGE CODE 98 % Scale Performance Spec	REV
OTHER		33491 C 1008014 J	
ECO No.: REL DATE		Scale N/A INTERIM REV	SHEET 5 OF 22

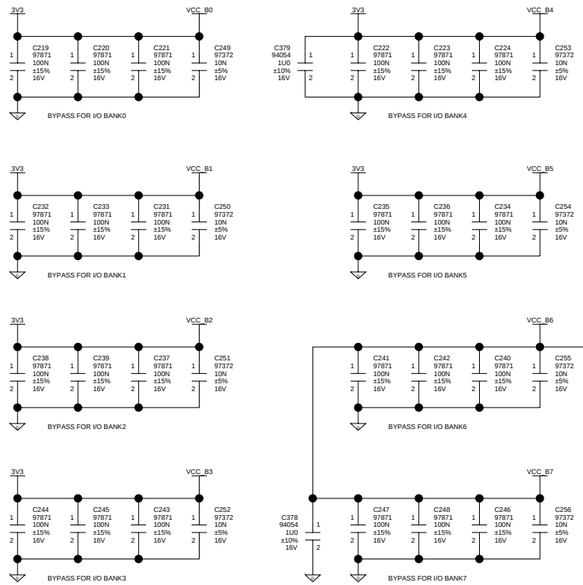

3V3
R55 97320 100K 0.063W ±1%
TP109 TP108 TP107 TP106 TP105
CFG_CLK
CFG_DONE
CFG_DATA
~CFG_INIT
~PROGRAM
~CFG_INIT
SET "DRIVE DONE" OPTION IN FPGA
ASIC_CFG
FLOAT ~CF_SLOT FOR PCMCIA INTERFACE
3V3
R129 97296 10K0 0.063W ±1%
~RST_ASIC
TP148
~CF_SLOT
~ASIC_REQ
~ASIC_ACK
CF_3V3EN
CF_5VEN
LOW_ENERGY_LATCH
CF_IN
PC_IN
PCM_IN
TP112
~CF_STSCHG
~CF_PCD
CF_PRDY
~PCM_STSCHG
~PCM_PCD
PCM_PRDY
INPACK
BD30
PSKTSEL
~PREG
~PCE2
~PCE1
~PIOR
BD20
~PIOW
~POE
~PWE
~PWAIT
~IOIS16
~ASIC_CS5
BD18
MRDY
~MOE
MEM_CTL
MBGNT
MB_REQ
MBREQ
TP110
TP111
R53 97320 100K 0.063W ±1%
R54 97320 100K 0.063W ±1%
TP601
~ASIC_CS5
R247 97296 10K0 0.063W ±1%
R244 97296 10K0 0.063W ±1%
R241 97296 10K0 0.063W ±1%
BD7
BA25
BA24
BA23
BA22
BA21
BA20
BA19
BA18
BA17
CFG_DATA
BA16
CFG_CLK
R243 97296 10K0 0.063W ±1%
R242 97296 10K0 0.063W ±1%
R240 97296 10K0 0.063W ±1%
TP104
ASIC_CFG
JTAG_BUS
BA[25:0]
BD[31:0]
CLK_48MHZ
32KHZ_ASIC
~S2_IOIS16
~S2_CARD_DETECTED
~S2_REG
~S2_INPACK
~S2_WAIT
S2_RDY
~S2_IOWR
~S2_IORD
~S2_OE
S2_RDY
~S2_WE
~S2_CE[2:1]
~S2_VS[2:1]
S2_BVD[2:1]
S2_A[25:0]
S2_D[15:0]
~S2_CARD_DETECTED
~CB_CD[2:1]
CB_AD[31:0]
CB_CBE[3:0]
CB_VS[2:1]
CFG_DONE
~CFG_INIT
~PROGRAM
B3IO_DONE
B3IO_VT5_~INIT
~PROGRAM
B3IO_Y21_D7
B3IO_W22
B3IO_W21
B3IO_V22
B3IO_V21
B3IO_V20
B3IO_U22
B3IO_U21_VREF
B3IO_U20
B3IO_U19
B3IO_T22_D6
B3IO_T21
B3IO_T20
B3IO_T19
B3IO_T18
B3IO_R21_D5
B3IO_R19_VREF
B3IO_R18
B3IO_P21
B3IO_P20
B3IO_P19
B3IO_P18
B3IO_N22_D4
B3IO_N21_VREF
B3IO_N20
B3IO_N18
B3IO_N19
B3IO_M22_TRDY
B3IO_M20
B3IO_M19
B3IO_M18
B2IO_L22
B2IO_L21
B2IO_L20_IRDY
B2IO_L18
B2IO_L17
B2IO_K22
B2IO_K21_VREF
B2IO_K20_D3
B2IO_J22
B2IO_J21
B2IO_J20
B2IO_J19
B2IO_J18
B2IO_H22_D1
B2IO_H20_D2
B2IO_H19
B2IO_H18_VREF
B2IO_G21
B2IO_G20
B2IO_G19
B2IO_G18
B2IO_F22
B2IO_F21_VREF
B2IO_F20
B2IO_F19
B2IO_F18
B2IO_E20
B2IO_E21
B2IO_E22
B2IO_D22
B2IO_D21
B2IO_D20_DIN_D0
B2IO_C22
B2IO_C21_DOUT_BUSY
B2I_CCLK
U19
9003332
XC2S150-5 FG456 I
DGND;A1,A22,B2,B21,C3,C20,J9,J10,J11,J12,J13,J14
DGND;K9,K10,K11,K12,K13,K14,L9,L10,L11,L12,L13,L14
DGND;M9,M10,M11,M12,M13,M14,N9,N10,N11,N12,N13,N14
DGND;P9,P10,P11,P12,P13,P14,Y3,Y20,AA2,AA21,AB1,AB22
VCC_INT;J7,J16,P7,P16,R7,R16,T7,T8,T9,T14,T15,T16
VCC_INT;E5,E18,F6,F17,G7,G8,G9,G14,G15,G16,H7,H16
VCC_INT;U6,U17,V5,V18
DVDD_5V;P5,V6,W13
VCC_B0;F7,F8,F9,F10,G10,G11
VCC_B1;F13,F14,F15,F16,G12,G13
VCC_B2;G17,H17,J17,K16,K17,L16
VCC_B3;M16,N16,N17,P17,R17,T17
VCC_B4;T12,T13,U13,U14,U15,U16
VCC_B5;T10,T11,U7,U8,U9,U10
VCC_B6;M7,N6,N7,P6,R6,T6
VCC_B7;G6,H6,J6,K6,K7,L7
NO CONNECT: A2,A6,A12,A13,A14,B11,B16,C2,C8,C9,D1,D4
NO CONNECT: D18,D19,E11,E17,E19,F11,G2,G22,H21,J1,J4,K2
NO CONNECT: K18,K19,L2,L19,M2,M17,M21,N1,P1,P22,R3
NO CONNECT: R20,R22,U3,U18,W4,W15,W19,Y5,Y22,AA1
NO CONNECT: AA3,AA9,AA10,AA11,AA16,AB7,AB8,AB12,AB14,AB21
NOTE: THE ABOVE NO CONNECTS ARE FOR THE FPGA
THE FOLLOWING ARE CONNECTED FOR THE ASIC
PLL_AVDD;A2
PLL_LOOP;D4
~RST_ASIC;E19
B6IO_Y2 NC
B6IO_Y1 CB_AD0
B6IO_W3 CB_AD2
B6IO_W2 CB_AD1
B6IO_W1 CB_AD4
B6IO_V4 CB_AD3
B6IO_V3 CB_AD6
B6IO_V2 CB_AD5
B6IO_V1
B6IO_U4 CB_AD7
B6IO_U2 CB_AD8
B6IO_U1 CB_CBE0
B6IO_T5 CB_AD10
B6IO_T4 CB_AD9
B6IO_T3_VREF NC
B6IO_T2 CB_AD11
B6IO_T1 CB_AD13
B6IO_R5 CB_AD12
B6IO_R4_VREF CB_AD15
B6IO_R2 CB_AD14
B6IO_R1 CB_AD16
B6IO_P4 CB_CBE1
B6IO_P3
B6IO_P2
B6IO_N5
B6IO_N4
B6IO_N3
B6IO_N2_VREF
B6IO_M6 NC
B6IO_M5
B6IO_M4
B6IO_M3 NC
B6IO_M1_TRDY
B7IO_L6 NC
B7IO_L5
B7IO_L4
B7IO_L3_IRDY
B7IO_L1 NC
B7IO_K5 CB_AD17
B7IO_K4 CB_CBE2
B7IO_K3_VREF CB_AD18
B7IO_K1 CB_AD19
B7IO_J5
B7IO_J3 CB_AD20
B7IO_J2
B7IO_H5 CB_AD21
B7IO_H4_VREF
B7IO_H3 CB_AD22
B7IO_H2
B7IO_H1 CB_AD23
B7IO_G5 CB_CBE3
B7IO_G4 CB_AD24
B7IO_G3 NC
B7IO_G1 CB_AD25
B7IO_F5 NC
B7IO_F4 CB_AD26
B7IO_F3 CB_AD28
B7IO_F2 CB_AD27
B7IO_F1 CB_AD30
B7IO_E4 CB_AD29
B7IO_E3 CB_AD31
B7IO_E2_VREF
B7IO_E1 NC
B7IO_D2
B7IO_C1
B7IO_B1
TP769
CB_RFU40
TP765
TP755
TP880
TP754
TP738
TP634
CB_RFU47
CB_PAR
~CB_BLOCK
~CB_PERR
~CB_STOP
~CB_GNT
~CB_DEVSEL
~CB_INT
~CB_TRDY
TP546
TP603
TP535
TP368
TP191
TP156
CB_CLK
~CB_FRAME
~CB_IRDY
5V
TP146
TP143
TP141
~CB_RST
~CB_SERR
~CB_REQ
TP132
TP140
CB_RFU32
~CB_CLKRUN
CB_3V3EN
CB_5VEN
~CB_CD1
~CB_CD2
CB_VS1
CB_VS2
CB_AUDIO
CB_STSCHG
TP846
TP547
S2_PULL_UPS
CB_PULL_UPS
B1IO_A20_~WRITE
B1IO_A19
B1IO_B19
B1IO_C19_~CS
B1IO_A18
B1IO_B18
B1IO_C18
B1IO_A17
B1IO_B17
B1IO_C17
B1IO_D17
B1IO_A16
B1IO_C16
B1IO_D16
B1IO_E16
B1IO_A15
B1IO_B15
B1IO_C15
B1IO_D15
B1IO_E15
B1IO_B14
B1IO_C14
B1IO_D14
B1IO_E14_VREF
B1IO_B13_VREF
B1IO_C13
B1IO_D13
B1IO_B12
B1IO_C12
B1IO_D12
B1IO_E12
B1IO_F12
B1I_A11_GCK2
B1IO_D11
B0I_C11_GCK3
B0IO_E11
B0IO_A10
B0IO_B10
B0IO_C10
B0IO_D10
B0IO_E10
B0IO_A9_VREF
B0IO_B9
B0IO_D9
B0IO_E9
B0IO_A8
B0IO_B8
B0IO_D8
B0IO_E8_VREF
B0IO_A7
B0IO_B7
B0IO_C7
B0IO_D7
B0IO_E7
B0IO_B6
B0IO_C6_VREF
B0IO_D6
B0IO_E6
B0IO_A5
B0IO_B5
B0IO_C5
B0IO_D5
B0IO_A4
B0IO_B4
B0IO_A3
B0IO_B3
TMS
TDO
TDI
TCK
M2
M1
M0
TMS_FPGA
TDO_FPGA
TDI_FPGA
TCK_FPGA
D3
A21
B20
C4
Y4
U5
A22
B19
B29
B28
B27
B26
B25
B24
B23
B22
B21
BA15
BA14
BA13
BA12
BA11
BA10
BA9
BA8
BA7
BA6
BA5
BA4
BA3
BA2
BA1
BA0
BD31
BD29
BD28
BD27
BD26
BD25
BD24
BD23
BD22
BD21
BD19
BD17
BD16
BD15
BD14
BD13
BD12
BD11
BD10
BD9
BD8
BD7
BD6
BD5
BD4
BD3
BD2
BD1
BD0
~S2_CE[2:1]
~S2_VS[2:1]
S2_BVD[2:1]
S2_A[25:0]
S2_D[15:0]
~S2_CARD_DETECTED
~CB_CD[2:1]
CB_AD[31:0]
CB_CBE[3:0]
CB_VS[2:1]
~CB_CD1
~CB_CD2
CB_VS1
CB_VS2
CB_AUDIO
CB_STSCHG
S2_PULL_UPS
CB_PULL_UPS
05-Oct-2005
OCTOBER 20 2004
SIGNATURES
DRAWN
NGT TEAM
DATE
NOV 1 2004
CHKD
APPVD
PROJ ENG
OTHER
PSION TEKLOGIX INC
MISSISSAUGA ONTARIO
TITLE
SCHEMATIC B525/B530 MAIN LOGIC BOARD BUFFER ASIC
SIZE
38481
DWG NO
C
1008014
REV
H
SCALE N/A
INTERIM REV
SHEET
6
OF
22
ECO No. :
REL DATE

BYPASS CAPS FOR 5V TOLERANT I/O BANKS



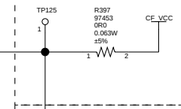


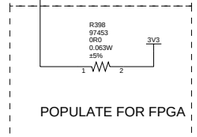
BYPASS CAPS FOR ASIC
CORE VOLTAGE



BYPASS CAPS FOR ASIC I/O BANKS

POPULATE FOR ASIC

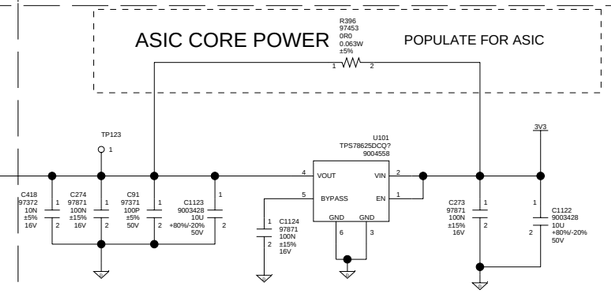


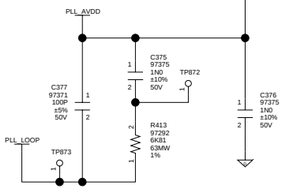


POPULATE FOR FPGA

ASIC CORE POWER

POPULATE FOR ASIC



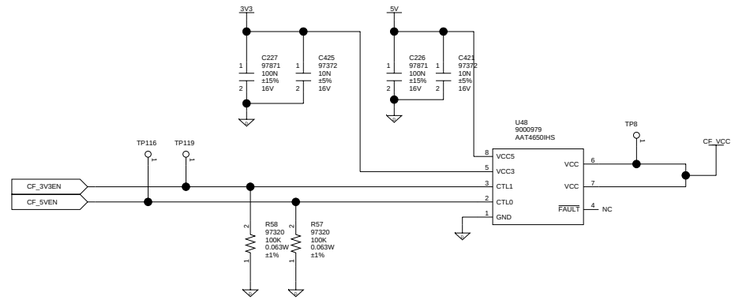


ASIC PLL POWER

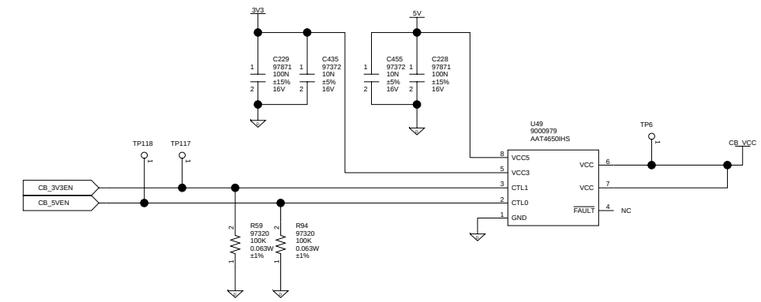
POPULATE ONLY FOR ASIC

FPGA CORE POWER

POPULATE FOR FPGA

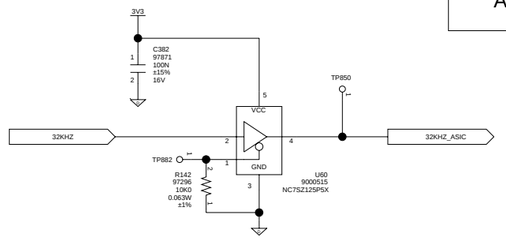


COMPACT FLASH / PCMCIA SLOT 0 POWER



CARDBUS/ PCMCIA SLOT 1 POWER

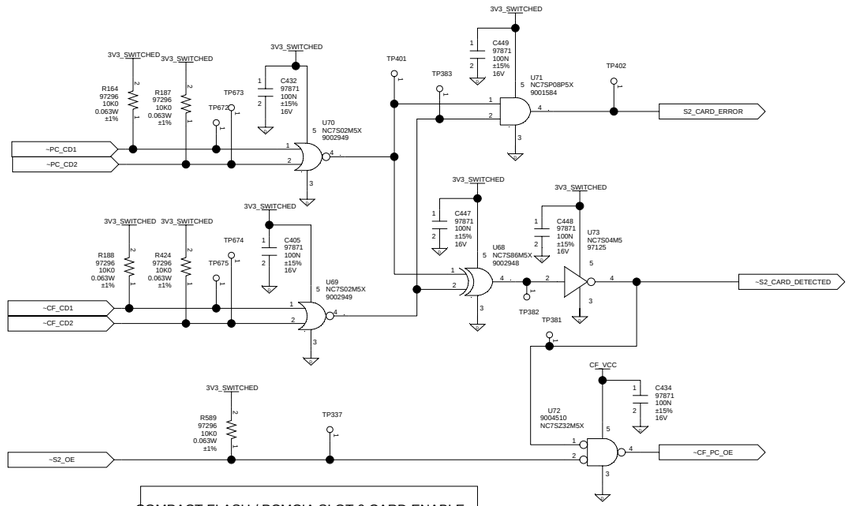
ASIC 32kHz CLOCK

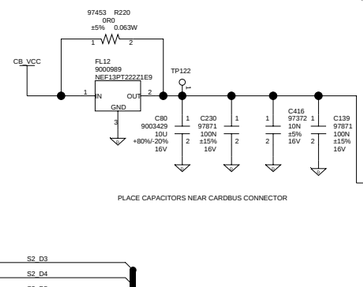


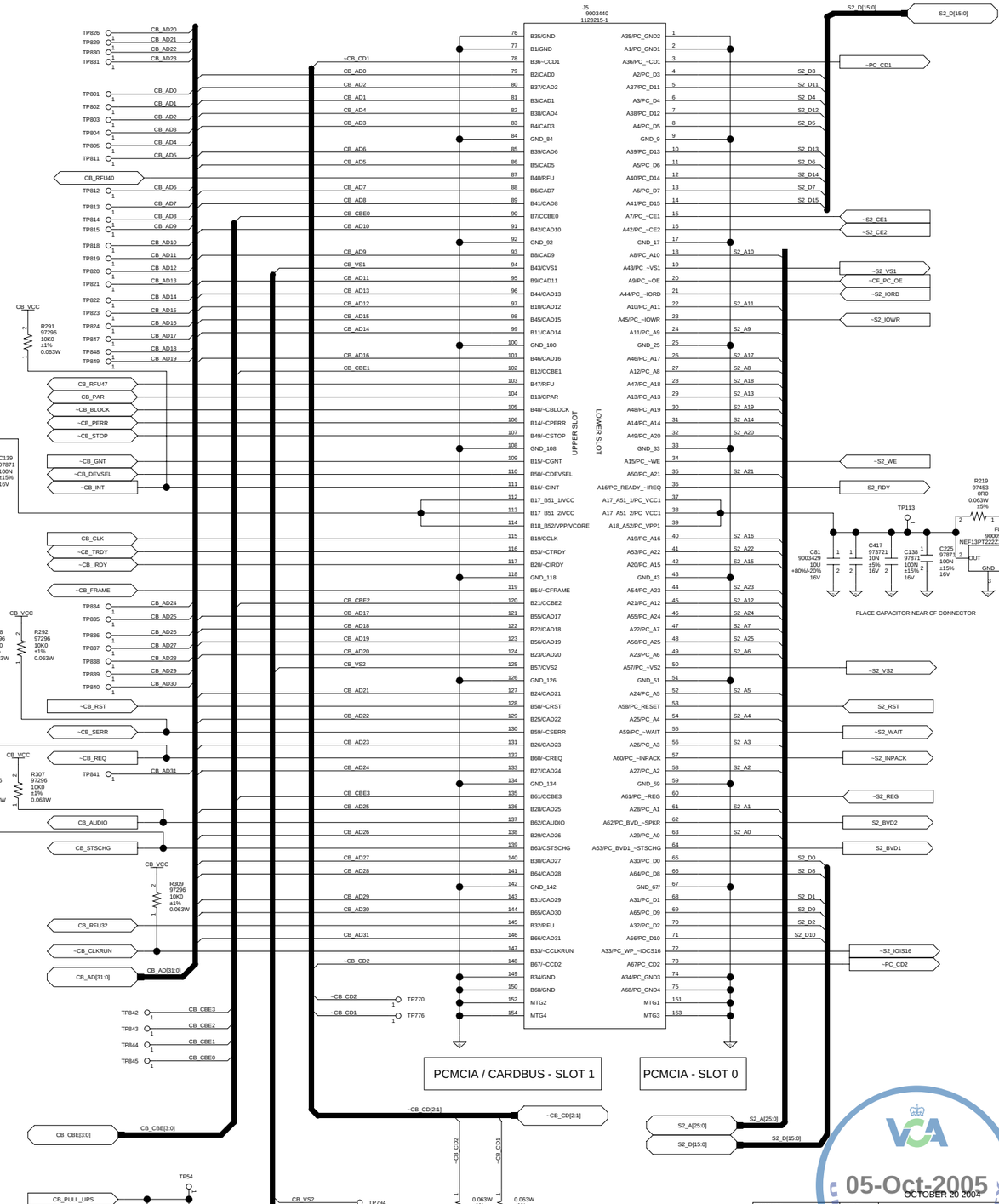
APPROVED
05-Oct-2005

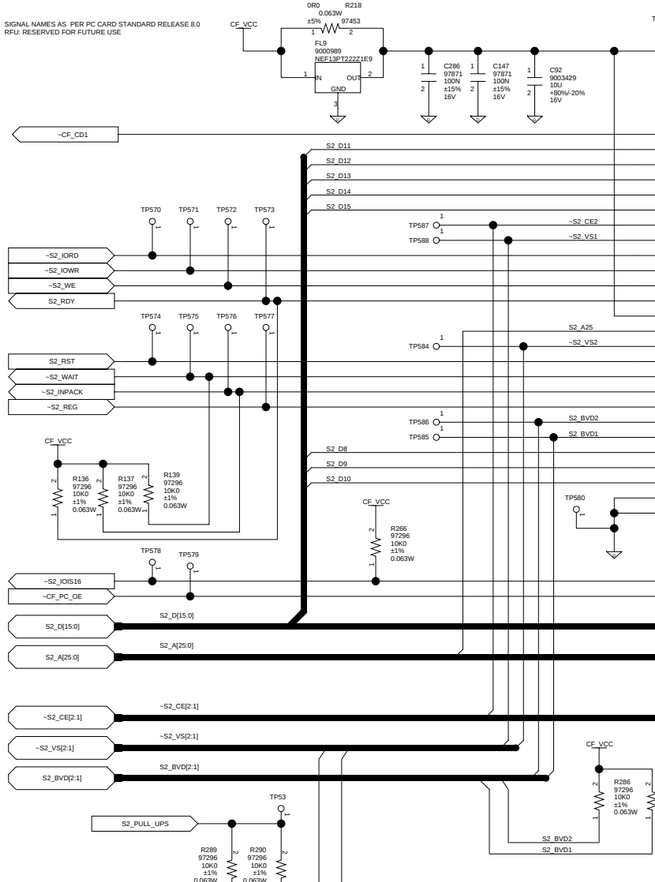
OCTOBER 20 2004

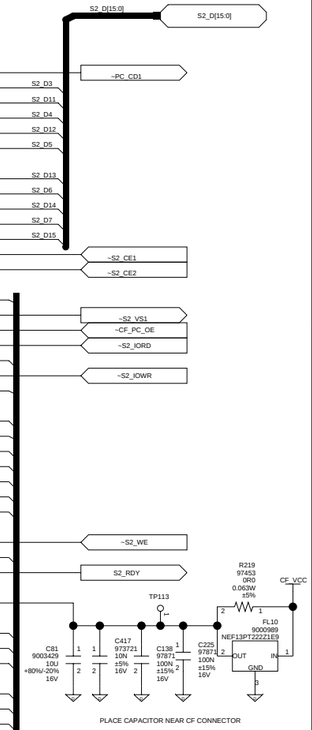
SIGNATURES	DATE		
DRAWN NGT TEAM	NOV 1 2004	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD ASIC SUPPORT CIRCUITRY	
PROJ ENG		Size (ANSI - A, B, C, D, E) / Drawing number	REV
		38481 C 1008014	H
OTHER		Scale N/A INTERIM REV	SHEET 7 OF 22
ECO No.: REL. DATE			

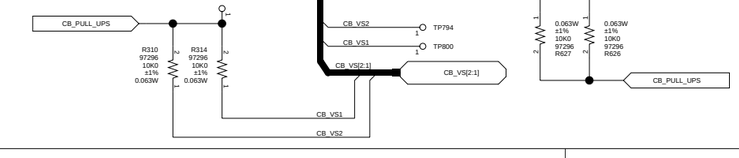












05-Oct-2005
OCTOBER 20 2004
APPROVED

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD			
APPVD		TITLE SCHEMATIC 8525/8530 MAIN LOGIC BOARD CE CARD/PCMCIA INTERFACE	
PROJ ENG		DOCUMENT NO. 9004481	REV C
OTHER		SIZE C	1008014 J
ECO No.: REL. DATE		Scale N/A	INTERM REV SHEET 8 OF 22

MQ1188 POWER

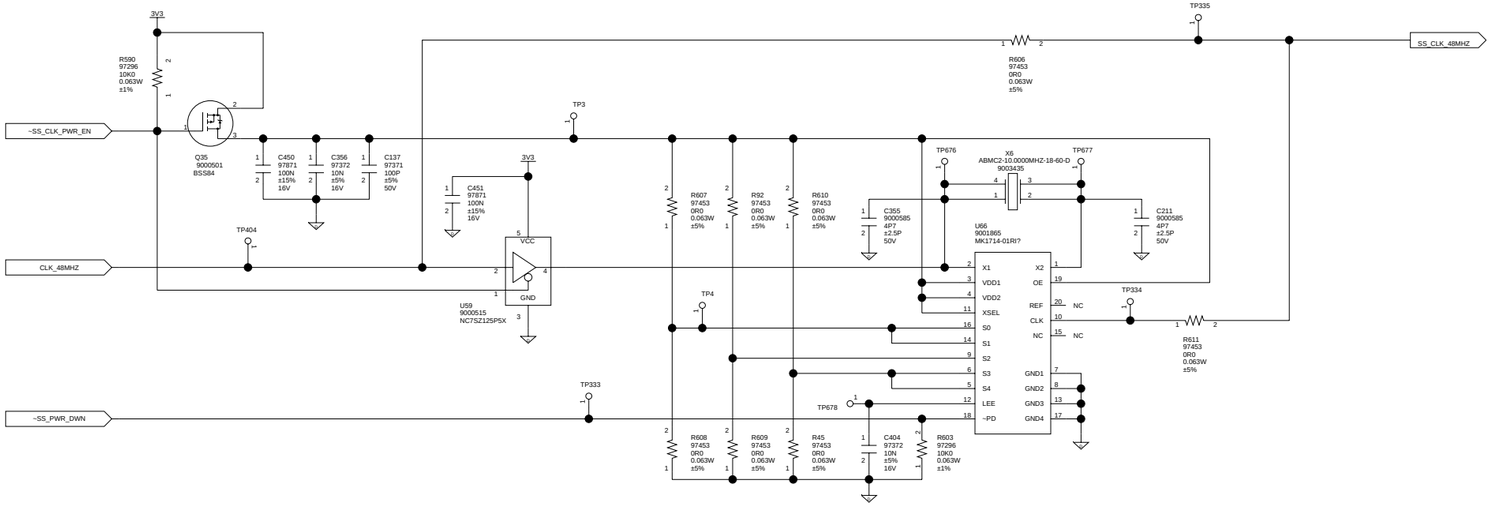
USB / SDIO CONTROLLER

TP1077
~SA2_RESET
~MQ1188_PWRDN
MEM_CTL
PCM_IN
SDRAM_CTL
IRQ_BUS
TP773
TP771
TP772
R180 97296 10K0 0.063W ±1%
3V3
U37 9001562 MQ1188-GBE
D10 ~POR
E6 ~PDWN_GPIO4
~MQ1188_CS2 K8 ~CS
~MOE L9 ~OE
~FWE K6 ~WR
DQM0 L8 ~BE0
DQM1 M7 ~BE1
MRDY L7 RDY
~MQ1188_IRQ K9 ~IRL
BA18 H2 A18
BA17 H3 A17
BA16 J2 A16
BA15 J3 A15
BA14 J1 A14
BA13 K2 A13
BA12 K3 A12
BA11 L1 A11
BA10 M1 A10
BA9 L2 A9
BA8 M2 A8
BA7 L3 A7
BA6 M3 A6
BA5 K4 A5
BA4 L4 A4
BA3 K5 A3
BA2 L5 A2
BA1 L6 A1
BA[25:0]
BD15 M9 D15
BD14 M10 D14
BD13 L10 D13
BD12 M11 D12
BD11 L11 D11
BD10 M12 D10
BD9 K10 D9
BD8 L12 D8
BD7 K11 D7
BD6 J12 D6
BD5 K12 D5
BD4 J10 D4
BD3 J11 D3
BD2 H11 D2
BD1 H10 D1
BD0 G12 D0
BD[15:0]
MQ_GPIO
R600 97296 10K0 ±1% 0.063W
MQ_GPIOC
K7 BS~_GPIO7
MQ_GPIOA E11 GPIO28
MQ_GPIOB E10 GPIO27
F11 GPIO22
DTB_PU_DRIVE G11 GPIO23
~TP_INSTALLED F10 GPIO24
MQ_GPIOC G10 GPIO25
TP101
R250 97296 10K0 0.063W ±1%
3V3_SWITCHED
PORTRAIT (on Huey & Calvin)
DISPLAY_CFG
SDIO_CARD
SDIO_CLK
R56 9004472 44R2 0.063W ±1%
U67 9000515 NC7SZ125P5X
C50 97871 100N ±15% 16V
SDIO_D0 G2 SDD0_GPIO60
SDIO_D1 F2 SDD1_GPIO61
SDIO_D2 F3 SDD2_GPIO62
SDIO_D3 E3 SDD3_GPIO63
E2 SDCLK_GPIO64
SDIO_CMD D2 SDCMD_GPIO65
SDIO_WP D8 VID7_GPIO77
SDIO_CD D7 VID6_GPIO76
D6 VID5_GPIO75
D5 VID4_GPIO74
D4 VID3_GPIO73
E4 VID2_GPIO72
F4 VID1_GPIO71
G4 VID0_GPIO70
H4 VCLK_GPIO78
J4 VHSYNC_GPIO79
J5 VVSYNC_GPIO80
TP57
R245 97296 10K0 0.063W ±1%
R246 97296 10K0 0.063W ±1%
R184 97296 10K0 0.063W ±1%
R185 97296 10K0 0.063W ±1%
R182 97296 10K0 0.063W ±1%
R181 97296 10K0 0.063W ±1%
TP855
TP856
~EN_USB_PULLUP
EN_USB_HUB_PWR
K1 BVDD3_K1
M4 BVDD2_M4
F12 BVDD1_F12
A10 FVDD2_A10
A3 FVDD1_A3
~EN_USB_DEV
C380 97871 100N ±15% 16V
C381 97871 100N ±15% 16V
C383 97871 100N ±15% 16V
C384 97871 100N ±15% 16V
C385 97871 100N ±15% 16V
INTEL SA-1110 PSA200 HOST BUS INTERFACE
FPI INTERFACE
SECURE DIGITAL I/F
I2S CODEC
SPI
VIDEO INTERFACE
I/O POWER
CORE POWER
DGND;F8,F6,G6,H6,G8,
TP91
R29 97872 1M00 0.063W ±1%
TP85
C106 9001581 33P ±5% 50V
CLK_3M6864
OSCI F1
OSCO G1
OSCR E1
R36 97326 182K ±1% 0.063W
AVDD18 D1
AVDDP1 M6
AVDDP2 A5
AGND18 C1
AGNDP1 M5
AGNDP2 A4
C391 97871 100N ±15% 16V
C392 97871 100N ±15% 16V
C393 97871 100N ±15% 16V
C457 97372 10N ±5% 16V
TP767
MQ1188_PWR
1V5
C1096 94054 1U0 ±10% 16V
D21 94543 MBR0530T 30V_500MA
TP63
C354 97372 10N ±5% 16V
U11 MIC5247-1.5BM5 150MA 9001598
VOUT VIN ENABLE BYP GND
C1095 94054 1U0 ±10% 16V
FL6 9000989 NEF13PT222Z1E9
FD23 B11
FD22 C11
FD21 A11
FD20 B10
FD19 C10
FD18 C9
FD15 A9
FD14 B9
FD13 B8
FD12 C8
FD11 A8
FD10 C7
FD7 B7
FD6 C6
FD5 B6
FD4 A6
FD3 C5
FD2 B5
FSCLK C4
FLCLK_GPIO16 B3
FMOD_GPIO15 B2
FVSYNC_GPIO14 B4
FHSYNC_GPIO13 C3
FDE_GPIO12 D3
ENVEE_GPIO11 A1
ENVDD_GPIO10 B1
PWM1_GPIO18 C2
PWM0_GPIO17 A2
PWM_CCFL_DIM
P1DP E12
P1DN D12
PVDD C12
PGND E7
P2DP B12
P2DN A12
USB FUNCTION
USB HOST
C386 97871 100N ±15% 16V
TP78
TP64
R369 97234 27R4 0.063W ±1%
R370 97234 27R4 0.063W ±1%
H_USB_PLUS
H_USB_MINUS
HOST_USB
SRCLK_GPIO40 H9
SMCLK_GPIO41 G9
SCLK_GPIO42 F9
FSYNC_GPIO43 E9
SIN_GPIO44 D9
SOUT_GPIO45 D11
TP157
PWR_AMP_ON
AUDIO_EN
~USB_RESET
TOUCH_BUS
~SS_GPIO50 J6 ~TP_CS
SCK_GPIO51 J7 TP_DCLK
MOSI_GPIO52 J8 TP_DIN
MISO_GPIO53 J9 TP_DOUT
LED_GPIO54 G3 ~HEATER_INSTALLED
TP403
3V3_SWITCHED
R251 97296 10K0 0.063W ±1%
R165 97296 10K0 0.063W ±1%
DISPLAY_CFG
~PCIMD_GPIO5 E8
MD3_GPIO3 E5
MD2_GPIO2 F5
MD1_GPIO1 G5
MD0_GPIO0 H5
~3V3_PWR_OFF
R599 97296 10K0 0.063W ±1%
TP152
~TP_IRQ
MVDD2_H1 H1
MVDD1_H12 H12
MGND2_G7 G7
MGND1_H8 H8
CVDD2_M8 M8
CVDD1_A7 A7
CGND2_H7 H7
CGND1_F7 F7
R265 97296 10K0 0.063W ±1%
TP93
R166 97296 10K0 0.063W ±1%
EN_SDIO_PWR
MQ1188_PWR
C390 97871 100N ±15% 16V
C387 97871 100N ±15% 16V
C388 97871 100N ±15% 16V
C389 97871 100N ±15% 16V
C456 97372 10N ±5% 16V
TP768
TP55
R367 9004471 18R2 0.063W ±1%
TP34
R368 9004471 18R2 0.063W ±1%
TP79
0R0 ±5% 0.063W 97453 R249
96331 L4 PLP3216S551SL2
97453 R239 0R0 ±5% 0.063W
TP100
MEDIAQ_USB_DEVICE_PLUS
MEDIAQ_USB_DEVICE_MINUS
TP69
MEDIAQ_USB_DEVICE
place as close as possible to mq1188
R70 97320 100K 0.063W ±1%
Q44 BSS84 9000501 50V_350MW
TP1075
R135 97276 1K50 0.063W ±1%
TP65

05-Oct-2005
OCTOBER 20 2004

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA, ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD USB/SDIO CONTROLLER	
APPVD			
PROJ ENG			
DTHER			
ECO No.: REL DATE			

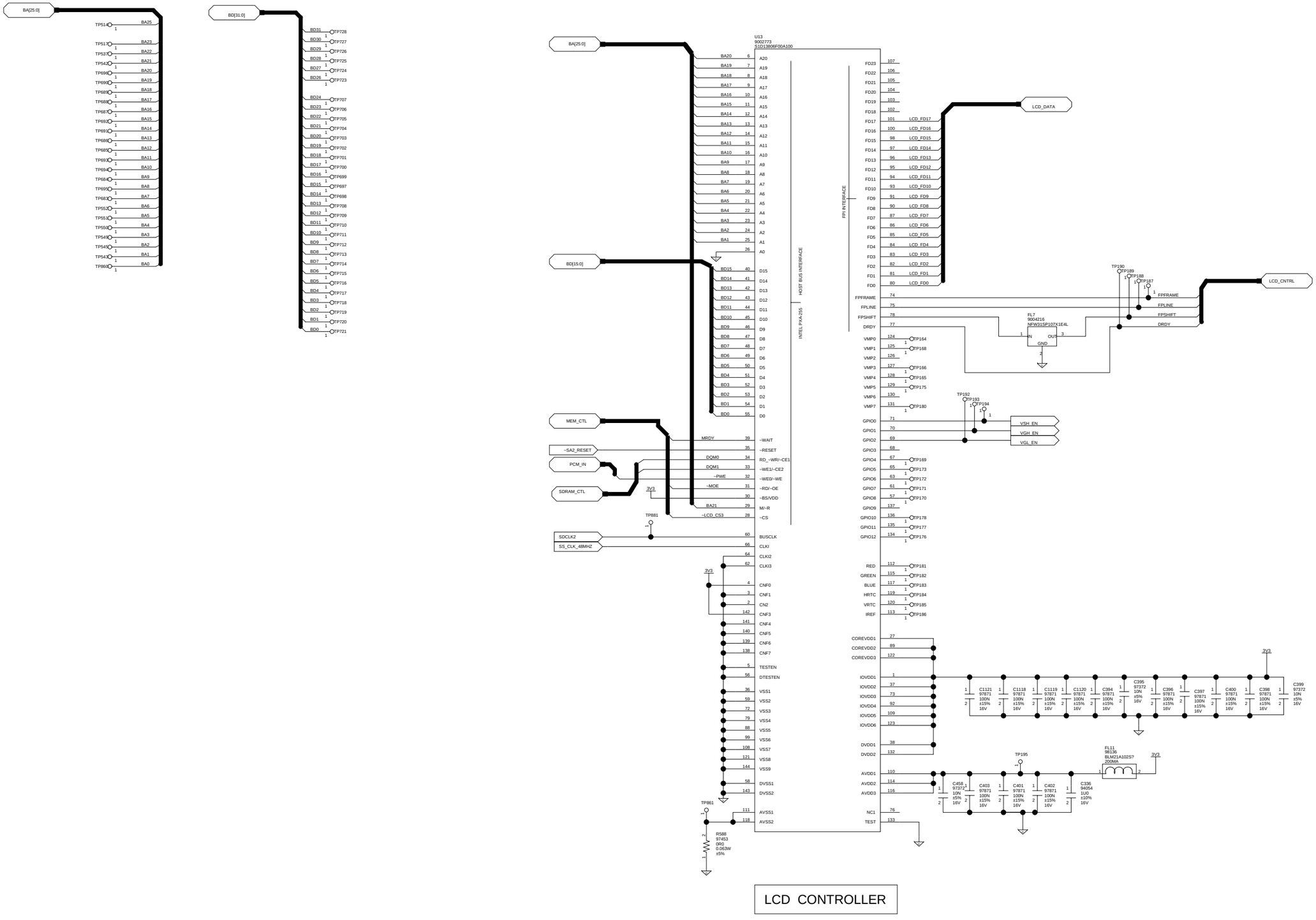
38481	C	1008014		H
Scale N/A		INTERIM REV	SHEET 9	OF 22



SPREAD SPECTRUM CLOCK GENERATOR

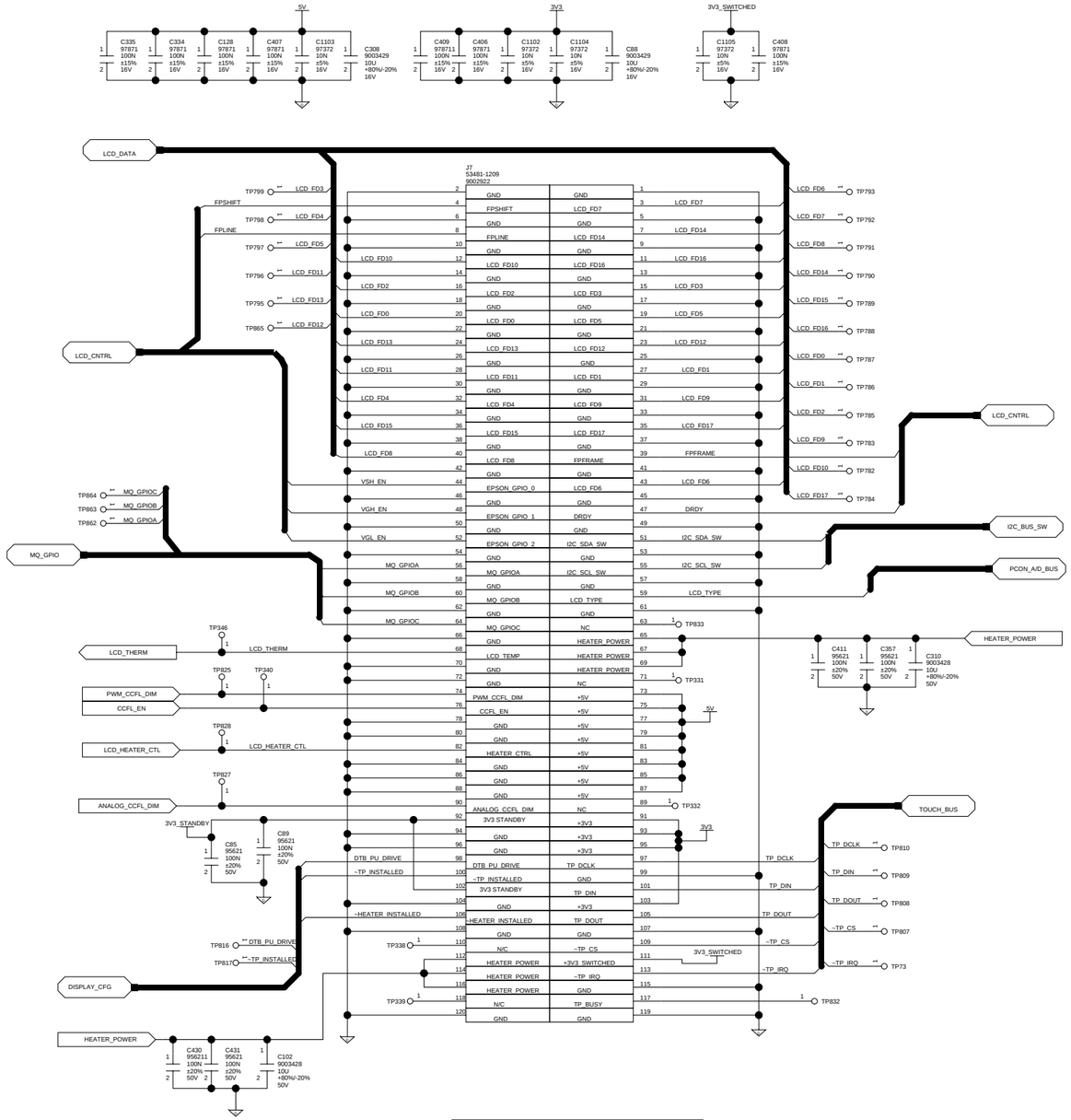
05-Oct-2005
OCTOBER 20 2004

SIGNATURES	DATE		
DRAWN NGT TEAM	NOV 1 2004	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONT	
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD SPREAD SPECTRUM CLOCK GENERATOR	
PROJ ENG		DWG NAME 38481	SIZE C / DRAWING NO 1008014 / REV H
OTHER		Scale N/A	INTERIM REV / SHEET 10 OF 22
ECO No.: REL. DATE			

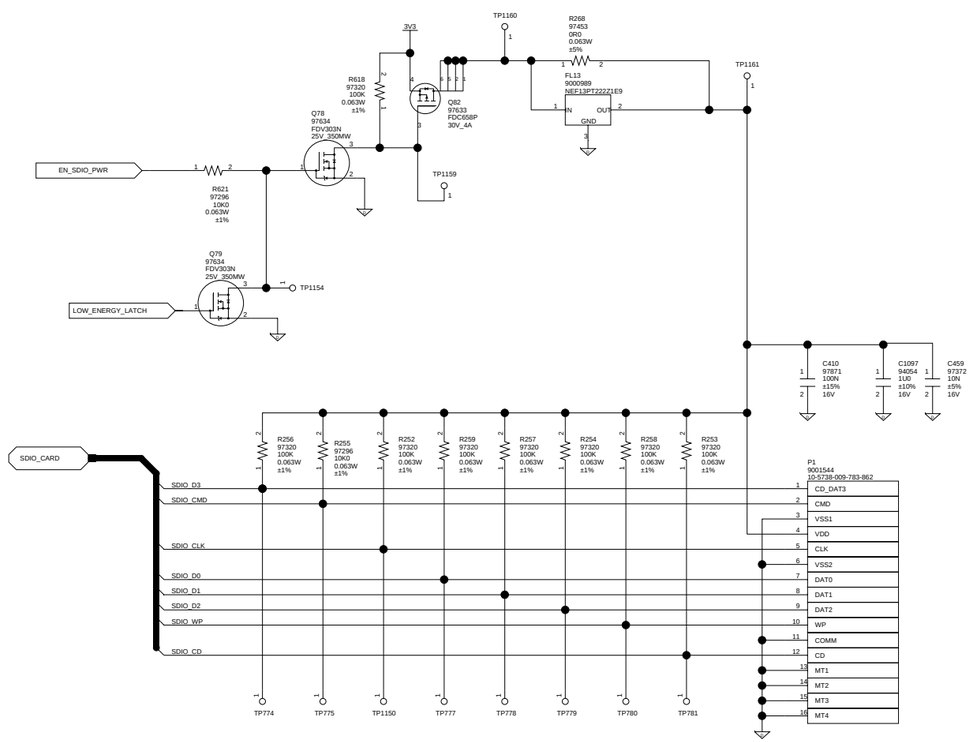


05-Oct-2005
OCTOBER 20 2004
APPROVED

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD LCD CONTROLLER	
APPVD			
PROJ ENG		CODE IDENT. NO. 38481	SIZE C
OTHER		DRAWING NO. 1008014	REV H
ECO No.: REL DATE		Scale N/A INTERIM REV	SHEET 11 OF 22



DTB CONNECTOR



SDIO SOCKET

05-Oct-2005
OCTOBER 20 2004
APPROVAL TESTING

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD		TITLE	SCHEMATIC 8525/30 MAIN LOGIC BOARD SDIO DTB CONNECTORS
APPVD		CODE IDENT NO. 38481	SIZE C
PROJ ENG		DRAWING NO. 1008014	REV H
OTHER		SCALE N/A	INTERIM REV
ECO No.: REL DATE		SHEET 12	OF 22

BATTERY CHARGER

CHARGER BUCK

INRUSH LIMITER

LOW ENERGY DETECTOR

CHARGER V_ ADJUST

VBAT_MAIN_IN
EXTERNAL_PWR
TRACEWIDTH=150
R17 9000552 0R039 ±1% 1W
CHRG_PWR_IN
TP201
Q27 9002936 FDS6675 30V_11A
TP216
TP253
SYS_PWR_IN
3V3_STANDBY
R79 97320 100K 0.063W ±1%
Q14 97634 FDV303N 25V_350MW
5VREF
R78 97320 100K 0.063W ±1%
R23 97872 1M00 0.063W ±1%
R195 97248 100 0.063W ±1%
R194 97248 100 0.063W ±1%
TP261
TP260
ACPRES
Q56 BSS84 9000501 50V_350MW
R276 97296 10K0 0.063W ±1%
R82 97320 100K 0.063W ±1%
C46 95621 100N ±20% 50V
TP213
C140 94054 1U0 ±10% 16V
TP212
TP866
TP203
TP202
Q11 97634 FDV303N 25V_350MW
~ACSEL
R262 97296 10K0 0.063W ±1%
R72 97320 100K 0.063W ±1%
R81 97320 100K 0.063W ±1%
TP875
TP210
DEPLETED_BAT
CHARGE_~WDO
CHARGE_CURRENT
DPM > 2A56
ILIMIT < 2A
TP209
TP252
TP81
TP205
R84 97320 100K 0.063W ±1%
R275 97296 10K0 0.063W ±1%
R42 9001579 137K 0.063W ±1%
C84 9003429 10U +80%/-20% 16V
C30 97375 1N0 ±10% 50V
R85 97320 100K 0.063W ±1%
U55 9001558 ADM705AR
VCC
~MR
~RESET
PFI
~PFO
WDI
~WDO
GND
TP242
TP241
TP265
TP266
CHARGE_EN
R264 97296 10K0 0.063W ±1%
R158 97303 20K0 0.063W ±1%
C293 97871 100N ±15% 16V
R263 97296 10K0 0.063W ±1%
5VREF
U36 BQ24702PW 9001860
ACN
~ACDRV
VCC
~PWM
ACP
ACDET
SRP
ALARM
SRN
ACPRES
BATP
ACSEL
~BATTDRV
ENABLE
IBAT
ACSET
SRSET
BATSET
VREF
BATDEP
VS
VHSP
COMP
GND
TP251
D6 9000559 MMBZ5248BLT1
TP250
D18 92642 MMBD914 70V_225MA
R69 97320 100K 0.063W ±1%
R162 9000586 4R02 0.063W ±1%
C1 9003428 10U +80%/-20% 50V
C2 9003428 10U ±10% 50V
C44 95621 100N ±20% 50V
D8 9000559 MMBZ5248BLT1 18V_225MW
R349 97224 10R0 0.063W ±1%
TP232
TP766
TP233
TP234
TP235
L22 9001852 33U 20% 1A9
892NCS-330M=P3
D26 9000558 MBRS2040LT3 40V_2A
Q67 97633 FDC658P 30V_4A
R348 97248 100 0.063W ±1%
R261 97248 100 0.063W ±1%
Q1 9003999 SST5486
97453 0R0 R130 0.063W ±5%
TP236
TP237
TP238
V_CHRG = 6 - 12V6
I_CHRG = 0 - 2A
C86 9003429 10U +80%/-20% 16V
C87 9003429 10U +80%/-20% 16V
R141 9000926 90K9 0.063W ±1%
R2 9001574 16K2 0.063W ±1%
TP246
TP239
Q28 9002936 FDS6675 30V_11A
R80 97320 100K 0.063W ±1%
18V_225MW MMBZ5248BLT1 9000559 D10
TP240
D7 9000559 MMBZ5248BLT1 18V_225MW
D17 92642 MMBD914 70V_225MA
R267 97296 10K0 0.063W ±1%
TP217
C45 95621 100N ±20% 50V
D9 9000559 MMBZ5248BLT1 18V_225MW
Q31 9002936 FDS6675 30V_11A
D3 93285 BAT54 30V_200MA
Q39 93037 MMBT4403LT1
MMBT4403LT1 93037 Q40
TP218
TP219
R373 97272 1K00 0.063W ±1%
R157 97303 20K0 0.063W ±1%
Q2 92525 MMBT3904 40V_225MW
TP220
C93 97371 100P ±5% 50V
R375 97272 1K00 0.063W ±1%
TP221
R374 97272 1K00 0.063W ±1%
TP267
TP231
D1 97707 12V 12V_350MW
C7 9003433 2U2 ±10% 50V
C8 9003433 2U2 ±10% 50V
C20 97764 1U0 ±20% 25V
TP259
TP249
R39 9000549 576K 0.063W ±1%
R83 97320 100K 0.063W ±1%
3V3_STANDBY
C295 97871 100N ±15% 16V
C28 97375 1N0 ±10% 50V
R270 97296 10K0 0.063W ±1%
TP226
R269 97296 10K0 0.063W ±1%
R143 97327 200K 0.063W ±1%
R167 9000928 3K32 0.063W ±1%
TP227
R3 97273 1K10 0.063W ±1%
TP229
Q8 97634 FDV303N 25V_350MW
R277 97296 10K0 0.063W ±1%
U39 97866 LPV321M7
PCON_A/D_BUS
BAT_SET
C27 97375 1N0 ±10% 50V
R25 97872 1M00 0.063W ±1%
R144 97327 200K 0.063W ±1%
R154 97276 1K50 0.063W ±1%
TP225
TP247
VTERM_DAC
VBAT_MAIN_IN
R75 97320 100K 0.063W ±1%
TP258
R273 97296 10K0 0.063W ±1%
R76 97320 100K 0.063W ±1%
C297 97871 100N ±15% 16V
2 CELL > 1V6
3 CELL < 0V3
BAT_ID
TP254
BAT_ID
C294 97871 100N ±15% 16V
R390 9001577 280K 0.063W ±1%
0V87
TP222
R48 97320 100K 0.063W ±1%
C298 97871 100N ±15% 16V
2 CELL = 3V3
3 CELL = 0V
TP223
U6 LMC7215IM5 9000940
VDD
GND
BAT_PRESENCE
Vll = 2V73
Vth = 3V03
Hyst = 300mV
C296 97871 100N ±15% 16V
BAT_PRES
U7 LMC7215IM5 9000940
R271 97296 10K0 0.063W ±1%
R272 97296 10K0 0.063W ±1%
TP257
3V0
R73 97320 100K 0.063W ±1%
C299 97871 100N ±15% 16V
TP255
R74 97320 100K 0.063W ±1%
TP256
TP224
3 CELL = 9V75
R140 97331 301K 0.063W ±1%
R5 97872 1M00 0.063W ±1%
Q55 BSS84 9000501 50V_350MW
R71 97320 100K 0.063W ±1%
Q9 97634 FDV303N 25V_350MW
R6 9004495 28K 0.063W ±1%
TP230
TP228
D11 93285 BAT54 30V_200MA
I2C_BUS
I2C_SDA
I2C_SCL
U21 9004097 AD5247BKS100-RL7
SDA
SCL
A
W
TP154
TP153
C292 97871 100N ±15% 16V
C101 94054 1U0 10% 16V
C83 97375 1N0 ±10% 50V
C300 97871 100N ±15% 16V
R198 9004496 511K 0.063W ±1%
TP262
TP263
TP264
R274 97296 10K0 0.063W ±1%
U8 LMC7215IM5 9000940
LOW_ENERGY
Q15 97634 FDV303N 25V_350MW
ACPRES
R43 9001579 137K 0.063W ±1%
C301 97871 100N ±15% 16V
TP214
TP215
R196 97248 100 0.063W ±1%
C118 97848 120P ±5% 50V
C63 9003432 4U7 ±10% 16V

APPROVED FOR PRODUCTION
05-Oct-2005
OCTOBER 20 2004

SIGNATURES		DATE	PSION TEKLOGIX INC
DRAWN	NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO
CHKD			
APP'VD			TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD POWER MANAGEMENT/ CHARGER
PROJ ENG			CODE IDENT NO. 38481 · DRAWING NO. C 1008014 · REV J
OTHER			Scale N/A · INTERIM REV · SHEET 13 OF 22
ECO No.:			
REL DATE			

3.3V / 5V PWR SUPPLY

SYS_PWR_IN

VIN = 12 & 15V NOM
20V PEAK OP
25V ABS PEAK
5.3V ABS MIN

TRACEWIDTH=150

PEAK RIPPLE = 1.75A

C3 9003428 10U ±10% 50V
C4 9003428 10U ±10% 50V
C5 9003428 10U ±10% 50V
C6 9003428 10U ±10% 50V
C12 9003428 10U ±10% 50V

POWER GND NET

U16
LTC3728EUH
9000983

5V	4	FCB	
	21	EXTVCC	5V_INTVCC
	23	VIN	BOOST1
	26	TG1	
	25	SW1	
	22	BG1	
	28	RUN_SS1	
	13	RUN_SS2	
	30	SENSE1+	
	31	SENSE1-	
	1	VOSENSE1	
	27	PGOOD	
	14	TG2	
	17	BOOST2	
	15	SW2	
	18	BG2	
	12	SENSE2+	
	11	SENSE2-	
	9	VOSENSE2	
	19	PGND	
	7	3V3_OUT	
	3	PLLIN	
	2	PLLFLTR	
	5	ITH1	
	8	ITH2	
	6	SGND	
	33	SGND_TAB	
	10	NC10	
	16	NC16	
	29	NC29	
	32	NC32	

INSTALL TO DISABLE BURST MODE

TRACEWIDTH=25

TRACEWIDTH=80

ROUTE AS CRITICAL SIGNAL PAIR

SIGNAL GROUND NET (WIDTH = 20)

ROUTE AS CRITICAL TRACE, NOT TO PLANE

SINGLE PLANE NODE

SAME AS 5V RAIL IN NORMAL OPERATION

AUX_5V_LDO

AUX_3V3_LDO

Mount Parallel Sens Resistors Together.

TRACEWIDTH=100

5A MAX 6A ABS PEAK
RIPPLE = 12mV
BACKUP = 3.0V

2.5A MAX 3A ABS PEAK
RIPPLE = 10mV

TRACEWIDTH=80

~5V_PWR_OFF

~3V3_PWR_OFF

3V3_STANDBY

3V_5V_PWROK

PWR_SYNC_CLK 409 kHz

LOW_ENERGY_LATCH

EN_SW_PWR

3.3V / 5V SWITCHED

TRACEWIDTH=80

5V_SWITCHED

3V3_SWITCHED

POWER LED

J10 9006461

53261-0271 MOLEX

3.3V STANDBY REG

U52 9001599 S-8733258UP-ALA-T2

TRACEWIDTH=30

150mA MAX
+/- 1% TYP

U102 9004487 MIC811TU

~PCON_PGRM

~RST_PCON

CPU CORE SUPPLY

HICOREVDD_EN

COREVDD_EN

PXA255 = 1.1V - 1.3V

CORE VDD	R_SET1 || R_SET2	SA2 CLOCK
1.1V	26k7	200MHz
1.3V	16k0	400MHz

L1 9002935 10U 6A04 20%
DR127-100

L2 9000522 10U 3A4 20%
SLF12555T-100M3R4

L24 97661 10U 1A3 20%
SLF6028T-100M1R3

0.8V TYP [0.84, 0.74]

FREQ=400 kHz

RIPPLE = 5mV
INOM = 10 - 300 MA
IMAX = 500 mA

POWER GND NET

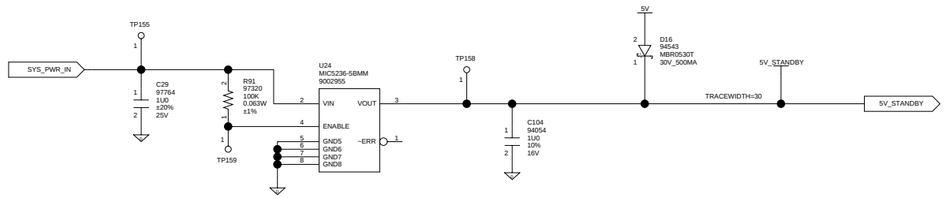
TPLNK3

TPLNK4

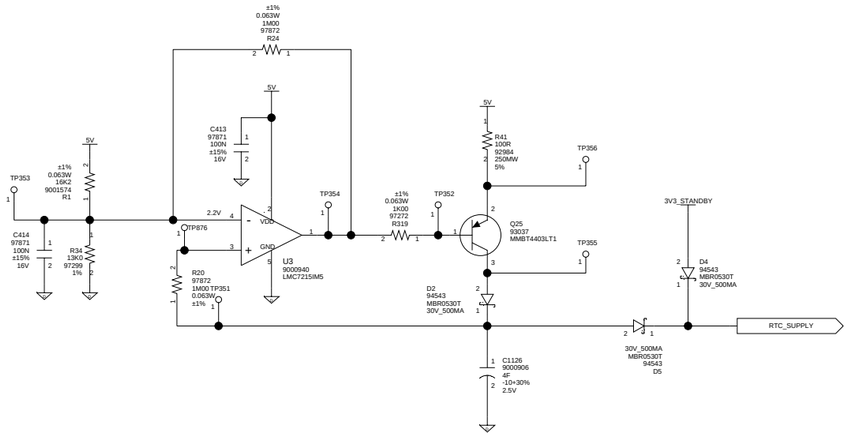
TPLNK2

05-Oct-2005
OCTOBER 20 2004
APPROVED

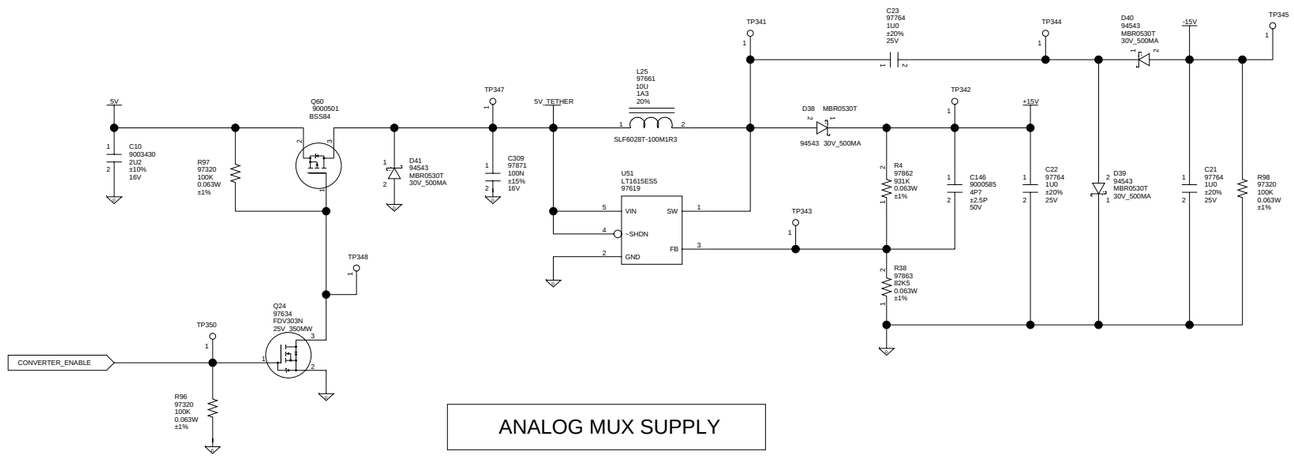
SIGNATURES	DATE		
DRAWN NGT TEAM	NOV 1 2004	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD DC DC CONVERTERS	
PROJ ENG		DOCUMENT NO. 1008014	REV J
ECO No.:		SCALE N/A	INTERIM REV
REL. DATE			SHEET 14 OF 22



5V STANDBY REG



SUPERCAP CHARGER



ANALOG MUX SUPPLY

05-Oct-2005
APPROVED

OCTOBER 20 2004

SIGNATURES	DATE		
DRAWN NGT TEAM	NOV 1 2004	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD MUX SUPPLY, SUPERCAP CHARGER	
PROJ ENG		CAGE CODE 06 NO. 81205 Patents: 6,...	SIZE C
OTHER		38481	1008014 H
ECO No.: REL DATE		Scale N/A	INTERIM REV SHEET 15 OF 22

TETHER PORT RS-232

TETHER POWER

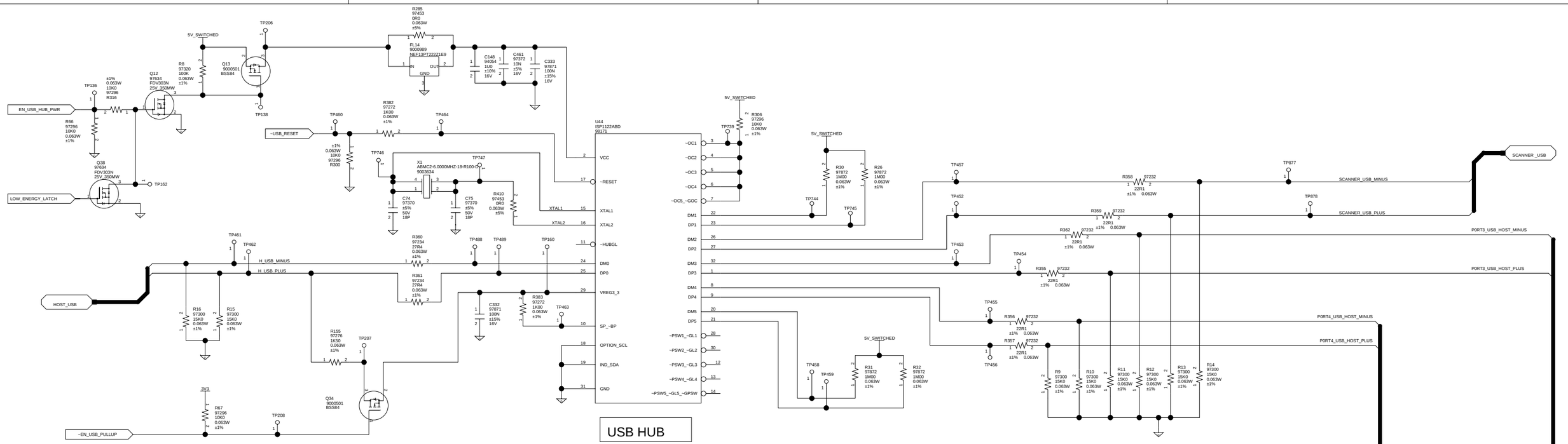
TETHER PORT

TETHER_SEL1	TETHER_SEL_0	TETHER INTERFACE
0	0	----------
0	1	TTL
1	0	RS-232
1	1	USB

05-Oct-2005

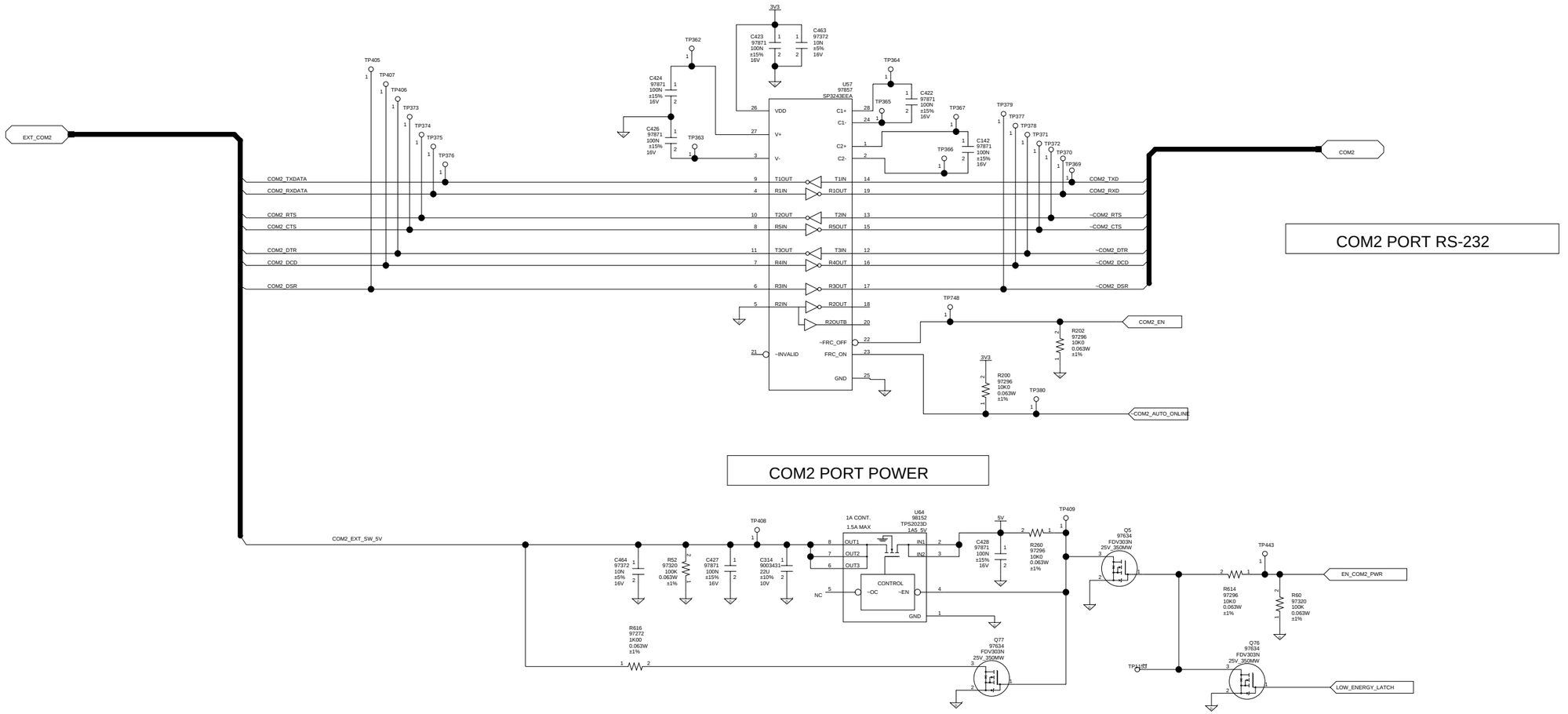
OCTOBER 20 2004

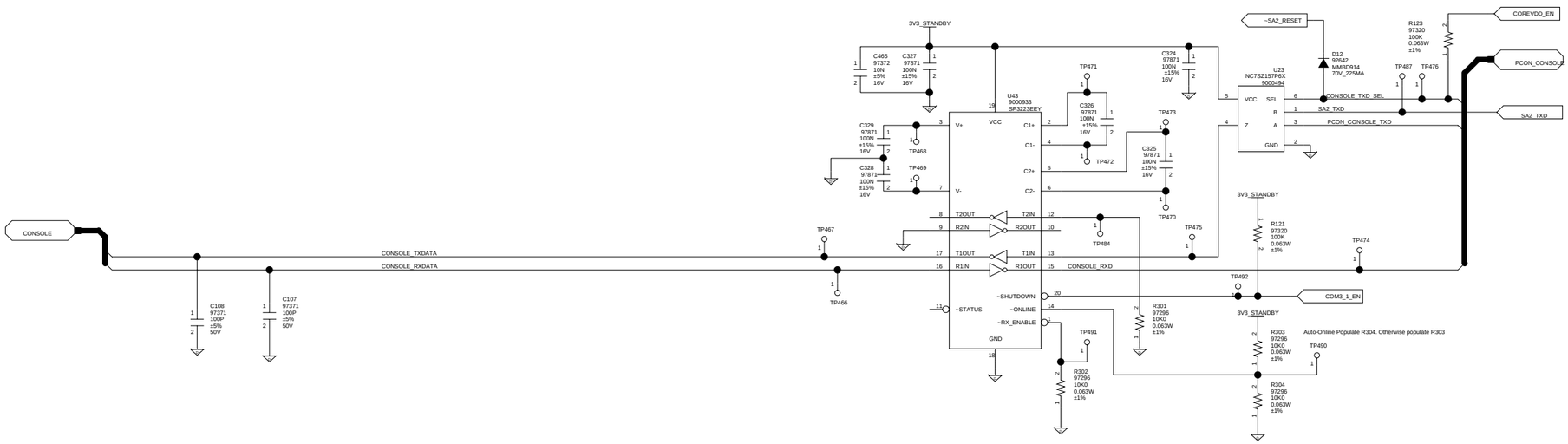
SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD EXTERNAL INTERFACES	
APPVD			
PROJ ENG		CAGE (CEC) 38481	SIZE C
OTHER		DWG NO. 1008014	REV H
ECO No.:		SCALE N/A	INTERIM REV
REL. DATE			SHEET 16 OF 22



05-Oct-2005
OCTOBER 20 2004

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD USB HUB & EXT PORT	
APPVD			
PROJ ENG		CAGE CODE 38481	SIZE C
OTHER		DRAWING NO. 1008014	REV H
ECO No.: REL. DATE		Scale N/A	INTERIM REV SHEET 17 OF 22



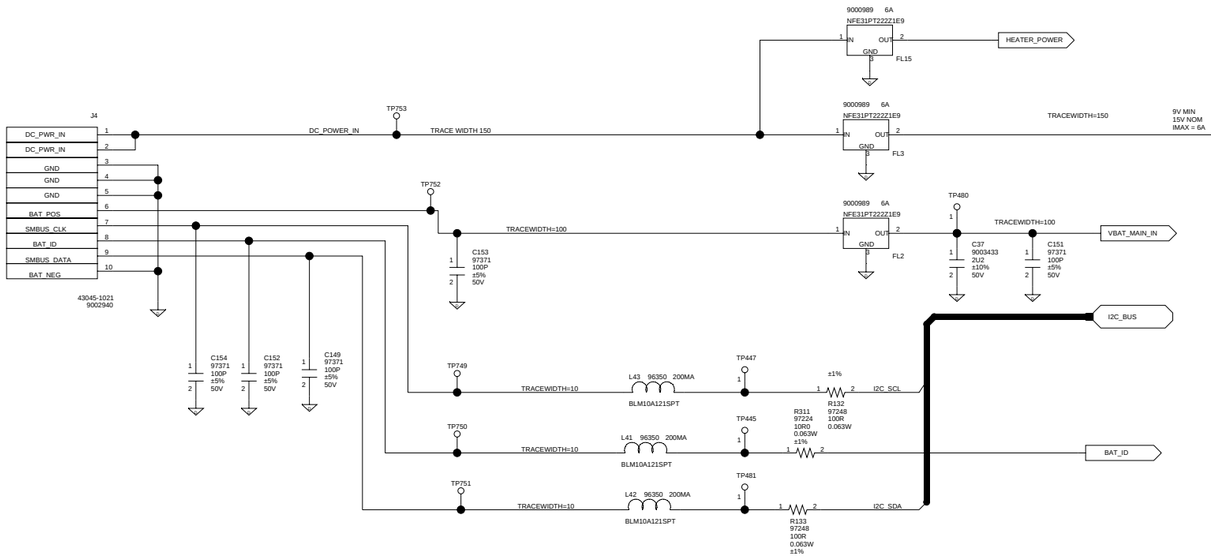


CONSOLE PORT RS-232

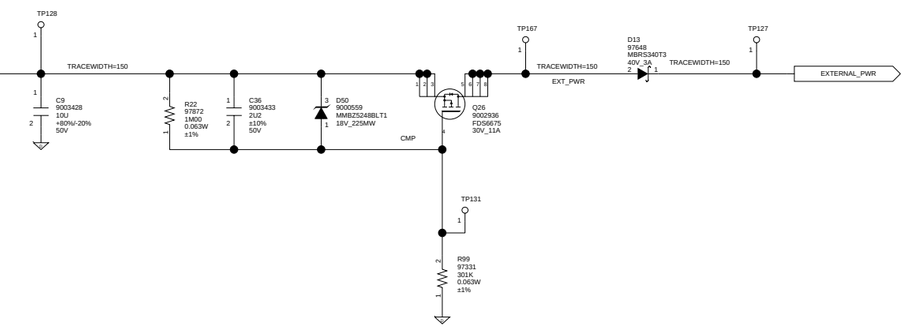
05-Oct-2005

OCTOBER 20 2004

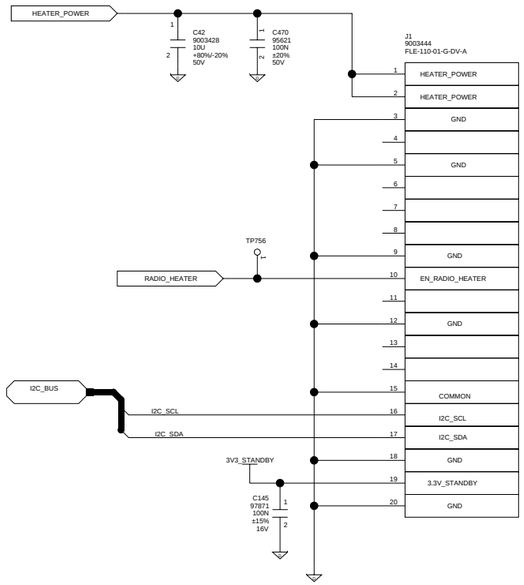
SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525E MAIN LOGIC BOARD CONSOLE & COMPORT	
APPVD			
PROJ ENG		CAGE CODE 38481	Drawing No. 1008014
OTHER		Scale N/A	INTERIM REV H
ECO No.: REL DATE			SHEET 18 OF 22



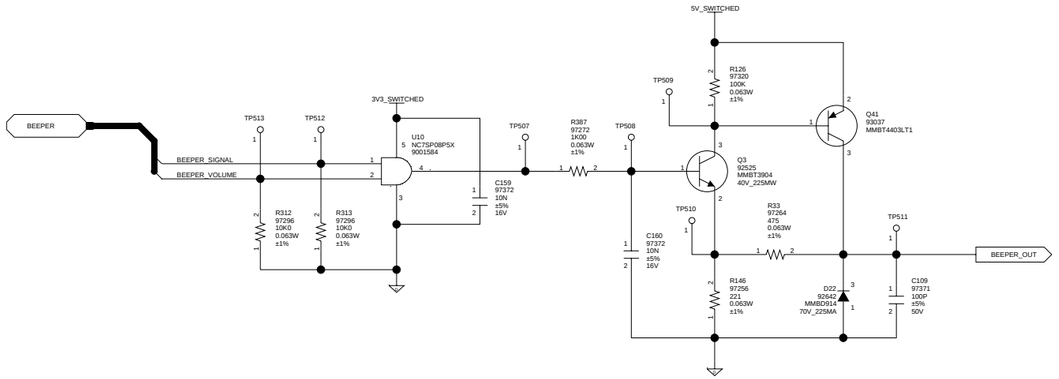
BATTERY INTERFACE



EXTERNAL POWER INRUSH LIMITER



RADIO HEATER BOARD INTERFACE



BEEPER DRIVE

05-Oct-2005
OCTOBER 20 2004
APPROVED

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD INPUT POWER & KEYBOARD INTERFACE	
APPVD		CODE IDENT. NO. 38481	SIZE C
PROJ ENG		DRAWING NO. 1008014	REV H
OTHER		SCALE N/A	INTERIM REV SHEET 19 OF 22
ECO No.: REL. DATE			

EXTERNAL KEYBOARD INTERFACE

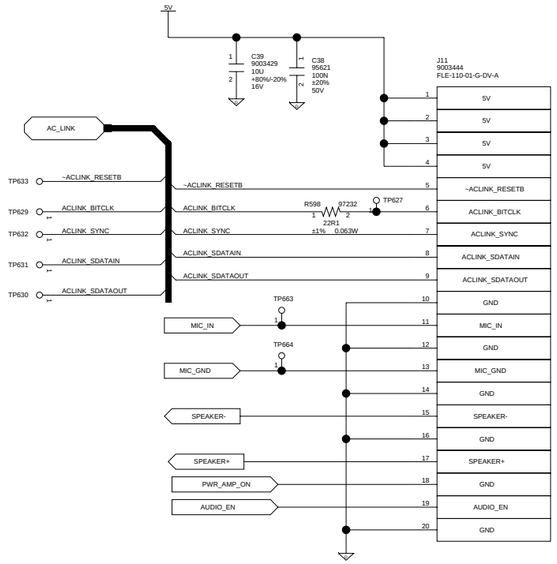
IRQ_BUS
~KBD_IRQ
TP544
C452 97871 100N ±15% 16V
3V3_STANDBY
U62 9000515 NC7SZ125P5X
5V_STANDBY
TP758
R323 4K70 97288 63MW 1%
C429 97871 100N ±15% 16V
U47 94724 DS8921AM
VCC GND
~EXT_KYBD_DETECT
32KHZ
U77 9002950 ISL6121LIB-T
U76 9002950 ISL6121LIB-T
U74 9002950 ISL6121LIB-T
U75 9002950 ISL6121LIB-T
VIN1 VIN2 ~EN GND OUT1 OUT2 OUT3 ~FAULT
TP540
TP539
TP538
TP495
TP130
TP536
TP494
TP541
TP482
TP483
32KHZ_TX_B
32KHZ_TX_A
R68 95202 100R 0.063W 1%
R201 97296 10K0 0.063W ±1%
R211 97296 10K0 0.063W ±1%
KBD_INT_B
KBD_INT_A
C290 97371 100P ±5% 50V
C289 97371 100P ±5% 50V
C288 97371 100P ±5% 50V
C287 97371 100P ±5% 50V
C284 97371 100P ±5% 50V
C283 97371 100P ±5% 50V
C282 97371 100P ±5% 50V
C281 97371 100P ±5% 50V
C280 97371 100P ±5% 50V
C279 97371 100P ±5% 50V
~EXT_KYBD_PWR_EN
TP134
TP133
C143 97871 100N ±15% 16V
U58 9000515 NC7SZ125P5X
R612 4K70 97288 0.063W 1%
J8 9002930 FH12-24S-0.5SH
MTG TAB
GND
32KHZ_RX_B
32KHZ_RX_A
KBD_INT_B
KBD_INT_A
TXRX_SCL
TXRX_SDA
~KEYBOARD DETECT IN
3.3V_STANDBY
3.3V_SWITCHED
5V_SWITCHED
5V STANDBY
EL_COMMAND
~KEYBOARD DETECT OUT
SYSPWR

INTERNAL KEYBOARD INTERFACE

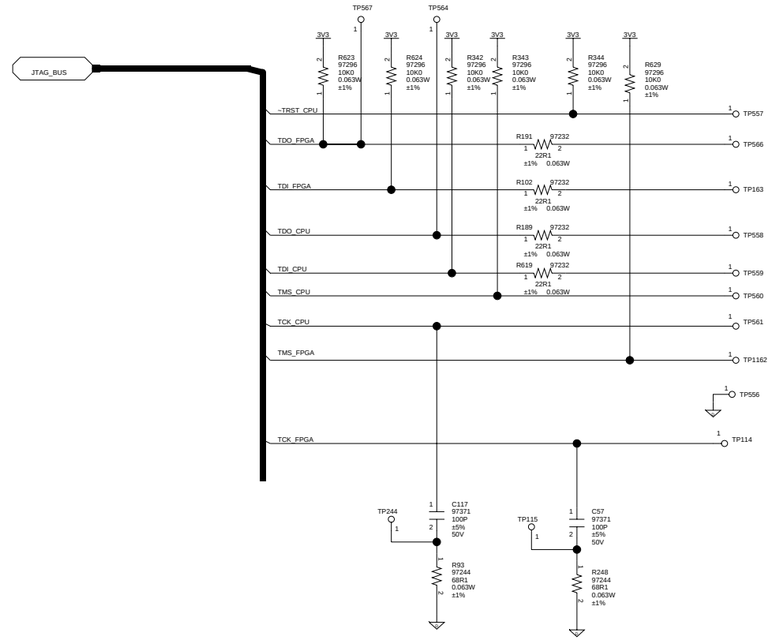
C453 97871 100N ±15% 16V
U61 9000515 NC7SZ125P5X
R322 4K70 97288 0.063W 1%
U82 NC7S04M5 97125
C105 97871 100N ±15% 16V
TP519
I2C_BUS
I2C_SCL
I2C_SDA
GND SY_SCL SX_SDA VCC RY_SCL TY_SCL RX_SDA TXD_SDA
9002929 P82896TD U14
C433 97871 100N ±15% 16V
TP500
TP501
R320 4K70 97288 1%
R321 4K70 97288 1%
C454 97871 100N ±15% 16V
U63 9000515 NC7SZ125P5X
TP759
EL_COMMAND
R391 97296 10K0 0.063W ±1%
HEATER_POWER
KEYBOARD_HEATER_EN
C116 9003428 10U +80%/-20% 50V
Q7 97634 FDV303N 25V_350MW
R288 97296 10K0 0.063W ±1%
TP757
Q33 9002936 FDS6675 30V_11A
R61 97320 100K 0.063W ±1%
TP548
TP523
KYBD_HEATER_POWER
INT_KYBD_HEATER_POWER
TP534
TP524
L48 96350 200MA BLM10A1215PT
TP505
TP525
L47 96350 200MA BLM10A1215PT
TP536
L46 96350 200MA BLM10A1215PT
TP527
L45 96350 200MA BLM10A1215PT
TP528
L44 96350 200MA BLM10A1215PT
TP529
L32 96321 2A BLM21PG221SN1?
TP530
L31 96321 2A BLM21PG221SN1?
TP531
L28 96321 2A BLM21PG221SN1?
TP532
L30 96321 2A BLM21PG221SN1?
TP533
L29 96321 2A BLM21PG221SN1?
C278 97371 100P ±5% 50V
C277 97371 100P ±5% 50V
C215 97371 100P ±5% 50V
C210 97371 100P ±5% 50V
C206 97371 100P ±5% 50V
C161 97371 100P ±5% 50V
C158 97371 100P ±5% 50V
C155 97371 100P ±5% 50V
TP506
TP504
TP503
TP502
J6 9002930 FH12-24S-0.5SH
INT_32KHZ
INT_KBD_INT
INT_TXRX_SCL
INT_TXRX_SDA
INT_EL_COMMAND
MTG TAB
GND
32KHz
BUFF_KBD_INT
TxRx_SCL
TxRx_SDA
EL_COMMAND
3.3V_SWITCHED
3.3V_STANDBY
NC
SYSPWR
5V_SWITCHED
5V STANDBY

05-Oct-2005
OCTOBER 20 2004
APPROVED

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD KEYBOARD INTERFACE	
APPVD		CODE IDENT NO 38481	SIZE C
PROJ ENG		DWG NO 1008014	REV H
DITHER		SCALE N/A	INTERIM REV
ECO No.: REL DATE			SHEET 20 OF 22



AUDIO BOARD INTERFACE



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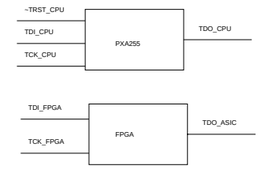
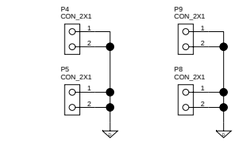
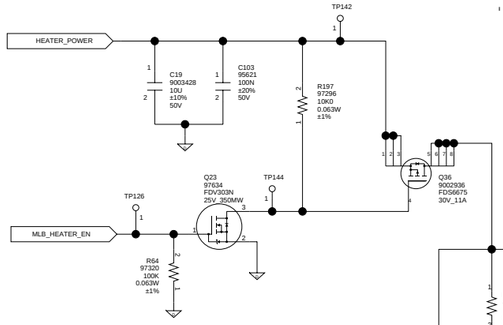


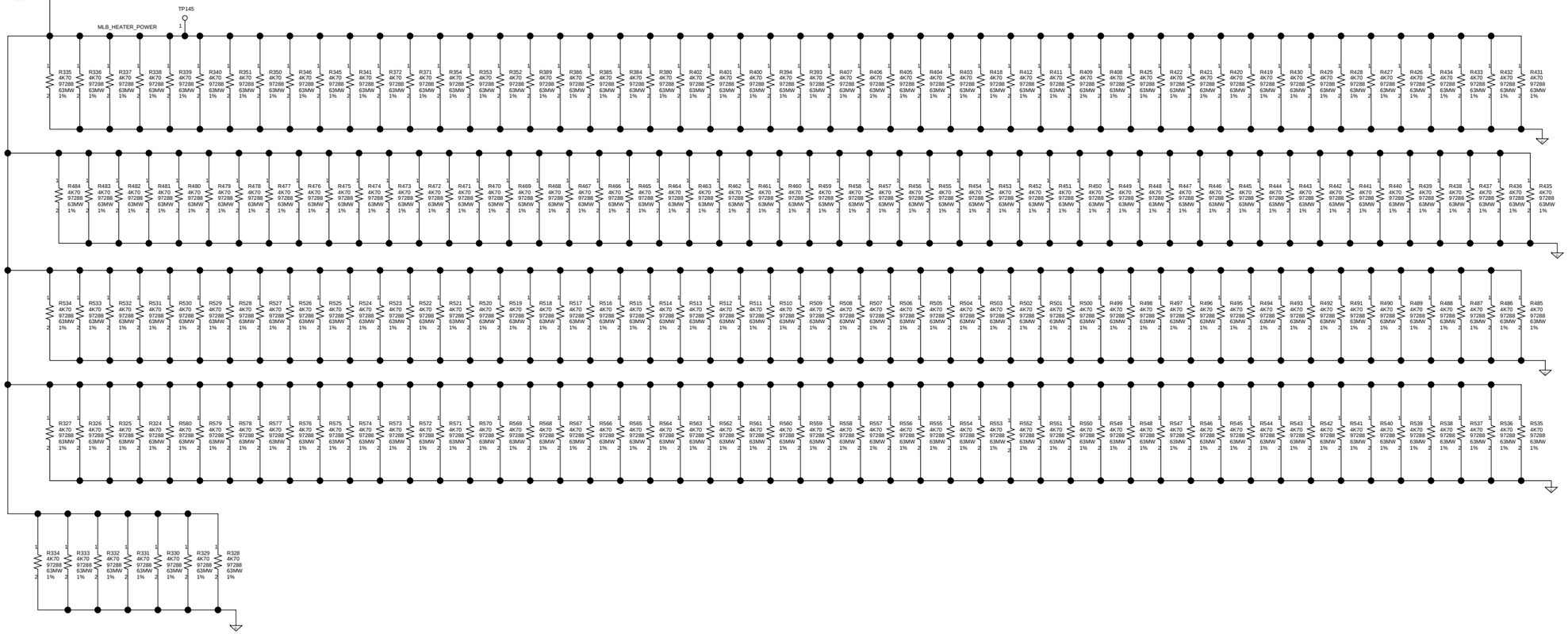


JUMPERS FOR SCOPE PROBE GROUNDING

05-Oct-2005
OCTOBER 20 2004
APPROVED

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN	NOV 1 2004	MISSISSAUGA ONTARIO	
CHKD			
APPVD		TITLE: SCHEMATIC 8525B MAIN LOGIC BOARD	
PROJ ENG		AUDIO & JTAG INTERFACE	
OTHER		CAGE CODE: 38481 / SIZE: C / Drawing No.: 1008014 / REV: H	
ECO No.:		Scale: N/A / INTERIM REV	SHEET 21 OF 22
REL. DATE			





MLB HEATER

VCA
05-Oct-2005
OCTOBER 20 2004
UNCONTROLLED COPY

SIGNATURES	DATE		
DRAWN NGT TEAM	REV: 1 2004	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE SCHEMATIC 9852-00 MAIN LOGIC BOARD HEATER CONTROL	
PROJ ENG		CAGE IDENT NO. 38481	SIZE C
		DRAWING NO. 1008014	REV H
ECO No.:	OTHER	Scale N/A	INTERIM REV
REL. DATE			SHEET 22 OF 22

8530 PORT EXTENDER BOARD

SCHEMATIC INDEX

Page 2: 8530 EXTERNAL KEYBOARD INTERFACE

Page 3: 8525/8530 AUXILLARY AND COM2 PORTS INTERFACE

CONFIGURATION DETAIL	
BaaN P/N	DESCRIPTION
1008735-100	8525/30 PORT EXTENDER BOARD PCB ASSEMBLY

REFERENCE DESIGNATOR	BaaN P/N	DESCRIPTION	QTY
DOC1	1008730-100	DOCUMENT ARTWORK PORT_EXTENDER BOARD 8525/30	0
DOC2	1008733-100	DOC PCB ASSY DWG PORT EXTENDER BOARD 8525/30	0
DOC3	1008734-100	DOC SCHEMATIC PORT_EXTENDER BOARD 8525/30	0
PCB1	1008731-100	PCB PORT_EXTENDER_BOARD 8525/30	1
NUT1	9004440	PEM NUT M3 X 0.5 STEEL	1
NUT2	9004440	PEM NUT M3 X 0.5 STEEL	1
NUT3	9004440	PEM NUT M3 X 0.5 STEEL	1
NUT4	9004440	PEM NUT M3 X 0.5 STEEL	1
NUT5	9004440	PEM NUT M3 X 0.5 STEEL	1
SCR1	9004485	M3 X 13MM STANDOFF STEEL 4.5 HEX	1
SCR2	9004485	M3 X 13MM STANDOFF STEEL 4.5 HEX	1
SCR3	9007492	SCREW M3X5 CHEESE/PHIL ZINC 5.5MM HEAD	1
SCR4	9007492	SCREW M3X5 CHEESE/PHIL ZINC 5.5MM HEAD	1
MTK1	1008743	PORT EXTENDER BOARD MOUNTING BRACKET	1

UNPOPULATED COMPONENTS
J7, R2,R3,F10,TVS22

	APPROVALS	DATE
ITEM GROUP:	DRAWN BY: DENIS LEBLANC	10-08-05
PRODUCT TYPE:	DOC. OFFICE:	
PART No. STATUS:	APPROVED BY:	
OBSOLETE	PROJ ENG:	
ENGINEERING ONLY	PROD ENG:	
PRE-PILOT	ELEC ENG:	
BETA	ECR/ECO No.	
RELEASED	RELEASE DATE	

PSION TEKLOGIX — MISSISSAUGA ONTARIO, CANADA

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05 SEP 2006

UK APPROVAL AUTHORITY

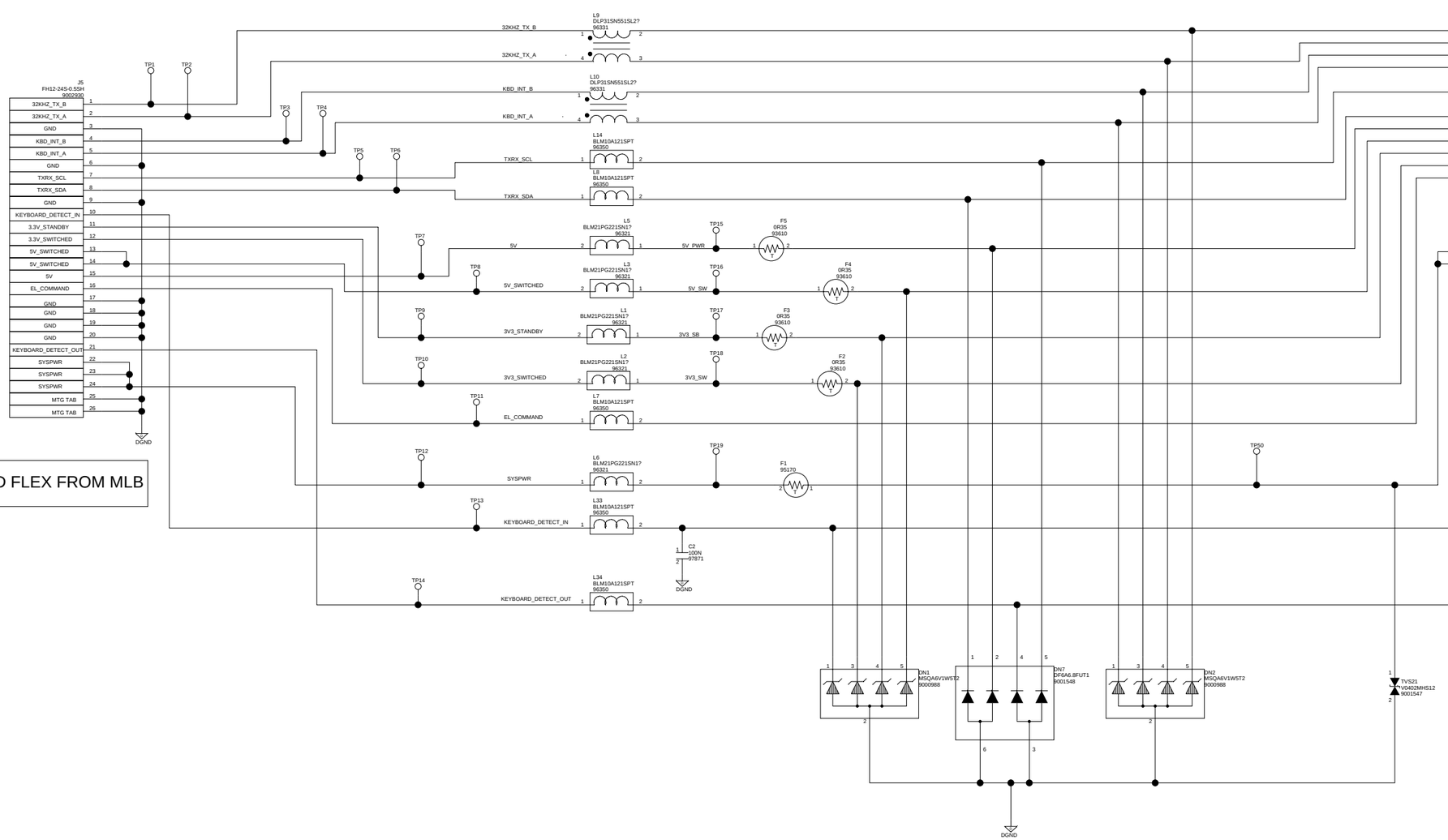
8525/30_PORT_EXTENDER BOARD

SIZE	CONFIGURATION	REV
D	1008734-100	B

LAST PRINT DATE: 24 MAY 05 — SHEET 1 OF 3

HI DENSITY DB-26 FOR EXTERNAL KEYBOARD

KEYBOARD FLEX FROM MLB



05-Oct 2005
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8525/30_PORT_EXTENDER BOARD			
SIZE D	DRAWING NO. 1008734-100		REV B
LAST PRINT DATE 24 MAY 05	SHEET 2	OF 3	

FLEX FROM MLB

MTG TAB 42
MTG TAB 41
EXT_5V_SW 40
EXT_5V_SW 39
EXT_5V_SW 38
MIC_IN 37
MIC_GND 36
GND 35
SPEAKER+ 34
SPEAKER- 33
BEEPER_OUT 32
GND 31
P4_USB_HOST+ 30
P4_USB_HOST- 29
GND 28
MEDIAQ_USB_DEV+ 27
MEDIAQ_USB_DEV- 26
GND 25
P3_USB_HOST+ 24
P3_USB_HOST- 23
GND 22
CONSOLE_RXD 21
CONSOLE_TXD 20
GND 19
GND 18
COM2_DSR 17
COM2_DTR 16
COM2_DCD 15
COM2_RXDATA 14
COM2_TXDATA 13
COM2_RTS 12
COM2_CTS 11
MOTION DETECT 10
COM2_EXT_SW_5V 9
COM2_EXT_SW_5V 8
COM2_EXT_SW_5V 7
AUXILARY_PORT_ID 6
GND 5
GND 4
CONSOLE_TXD_SEL 3
GND 2
PCON PROGRAM 1

9002946
FH12-40S-0.5SH
J1

TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP27 TP28 TP29 TP30 TP31 TP32 TP33 TP34 TP35 TP36 TP37 TP38 TP39 TP40 TP41 TP42 TP43 TP44 TP45 TP46 TP47

EXT_5V_SW — L4 BLM21PG221SN1? 96321
MIC_IN — L31 BLM10A121SPT 96350
MIC_GND — L30 BLM10A121SPT 96350
SPEAKER+ — L29 BLM10A121SPT 96350
SPEAKER- — L28 BLM10A121SPT 96350
BEEPER_OUT — L27 BLM10A121SPT 96350
P4_USB_HOST_PLUS
P4_USB_HOST_MINUS — 96331 DLP31SN551SL2? L56
MEDIAQ_USB_DEV_PLUS
MEDIAQ_USB_DEV_MINUS — 96331 DLP31SN551SL2? L18
P3_USB_HOST_PLUS
P3_USB_HOST_MINUS — 96331 DLP31SN551SL2? L19
MOTION_DETECT — L12 BLM10A121SPT 96350
CONSOLE_TXD_SEL — L13 BLM10A121SPT 96350
CONSOLE_RXDATA — L15 BLM10A121SPT 96350
CONSOLE_TXDATA — L16 BLM10A121SPT 96350
COM2_DSR — L17 BLM10A121SPT 96350
COM2_DTR — L20 BLM10A121SPT 96350
COM2_DCD — L21 BLM10A121SPT 96350
COM2_RXDATA — L22 BLM10A121SPT 96350
COM2_TXDATA — L23 BLM10A121SPT 96350
COM2_RTS — L24 BLM10A121SPT 96350
COM2_CTS — L25 BLM10A121SPT 96350
COM2_EXT_SW_5V
AUX_ID — L32 BLM10A121SPT 96350
PCON_PGRM — L26 BLM10A121SPT 96350

F7 0R35 93610
F9 0R35 93610

TVS13 TVS10 TVS11 TVS12 TVS14 TVS15 — VD402MHS12 9001547

DN9 DF6A6.8FUT1 9001548
DN3 MSQA6V1WST2 9000988
DN4 MSQA6V1W5T2 9000988

TVS9 TVS8 TVS7 TVS6 TVS5 TVS1 TVS2 TVS3 TVS4 — VD402MHS12 9001547

DGND

BPR1 92875
BEEPER

J4 9002934
1 EXT_5V_SW
2 EXT_5V_SW
3 MIC_IN
4 MIC_GND
5 SPEAKER+
6 SPEAKER-
7 GND
8 P4_USB_HOST+
9 P4_USB_HOST-
10 GND
11 MEDIAQ_USB_DEV+
12 MEDIAQ_USB_DEV-
13 GND
14 P3_USB_HOST+
15 P3_USB_HOST-
16 GND
17 CONSOLE_RXD
18 CONSOLE_TXD
19 GND
20 CONSOLE_TXD_SEL
21 MOTION DETECT
22 AUXILARY_PORT_ID
23
24 PCON PROGRAM
25
26 5V POWER
27 MTG CLIP
28 MTG CLIP

HI DENSITY DB-26
AUXILLARY PORT

TP54 F10 0R35 93610
TVS22 VD402MHS12 9001547
TP49 C1 100N 97871
J6 9002962
MOTION DETECT
(FROM INPUT POWER CABLE)

CONSOLE_RXD
CONSOLE_TXD
DSR
DTR
DCD
RXDATA
TXDATA
RTS
CTS

R2 0R0 95620
J7 9004531
1 POWER
2 POWER
3 GND
4 GND
5 TAB1
6 TAB2
AUXILIARY POWER

R3 0R0 95620
J2 9003281
1 DCD_1
2 RXD_1
3 TXD_1
4 DTR_1
5 GND
6 DSR_1
7 RTS_1
8 CTS_1
9 RI ***
10 MTG
11 MTG
COM2 - DB-9

R1 0R0 95620
TP53 F8 0R35 93610 TP52 L50 BLM21PG221SN1? 96321
TVS20 VD402MHS12 9001547

*** CAUTION - IF ENABLED, 5V POWER WILL BE APPLIED ON THE RING INDICATOR LINE (OUTPUT FROM MODEMS)

UK APPROVED
VCA
MISSISSAUGA ONTARIO, CANADA
05 Oct 2005
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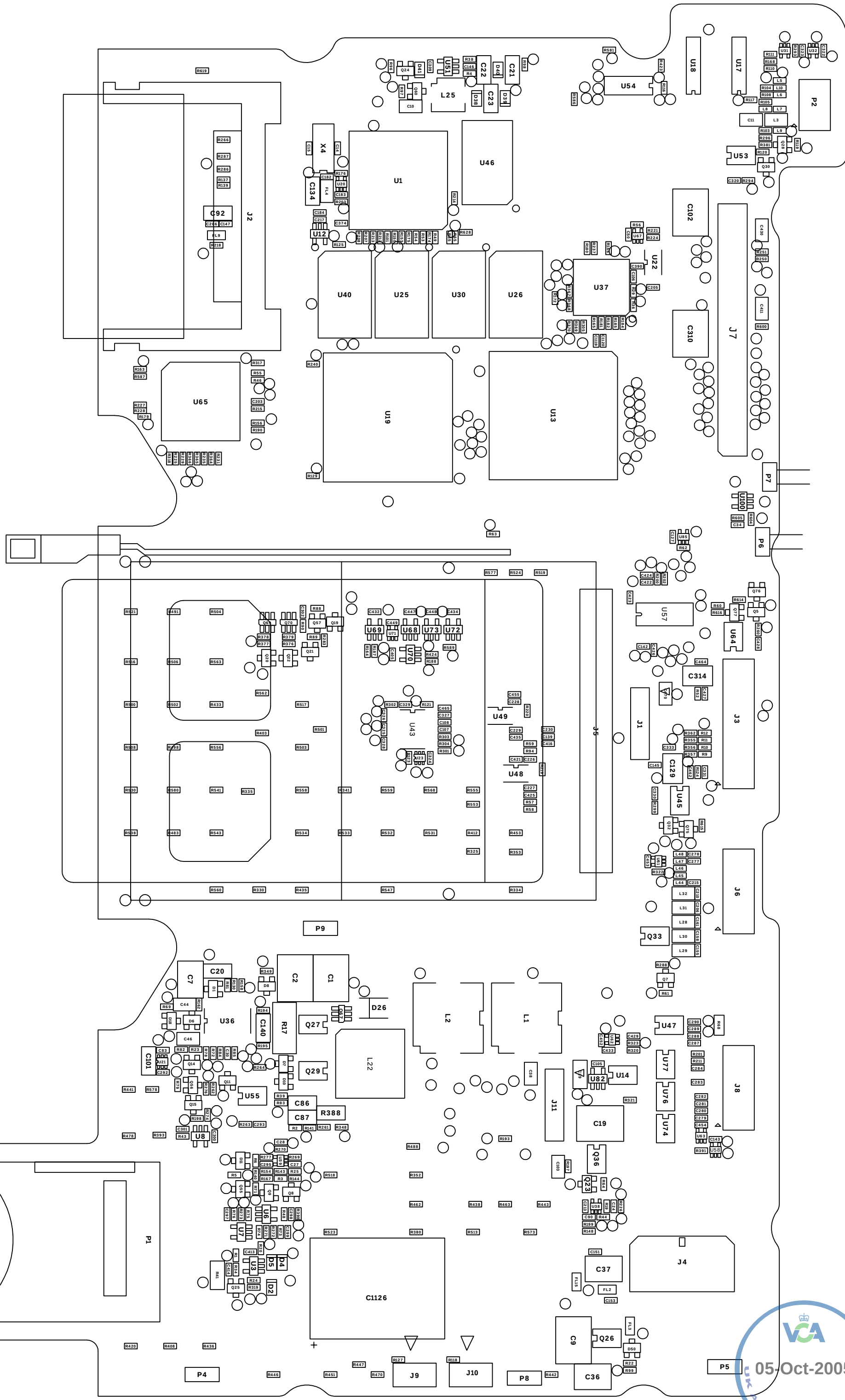
8525/30_PORT_EXTENDER BOARD

SIZE	DRAWING NO.	REV
D	1008734-100	B
LAST PRINT DATE: 25 MAY 05	SHEET 3 OF 3	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U46
X4
C134
U12
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U22
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P2
U17
U18
U54
U53
C102
C310
P7
P6
J5
U57
U64
C314
J3
J1
C129
U45
U49
U48
U43
U69
U68
U73
U72
U70
U71
U51
L25
C22
C21
C23
U36
C7
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C2
C1
C140
R17
Q27
Q29
L22
D26
C101
U55
C86
C87
R388
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U6
U7
U3
P4
P5
P1
C1126
J9
J10
P8
C36
C9
Q26
C37
J4
U47
U77
U76
U74
J8
C19
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U82
Q36
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L1
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U100
J6
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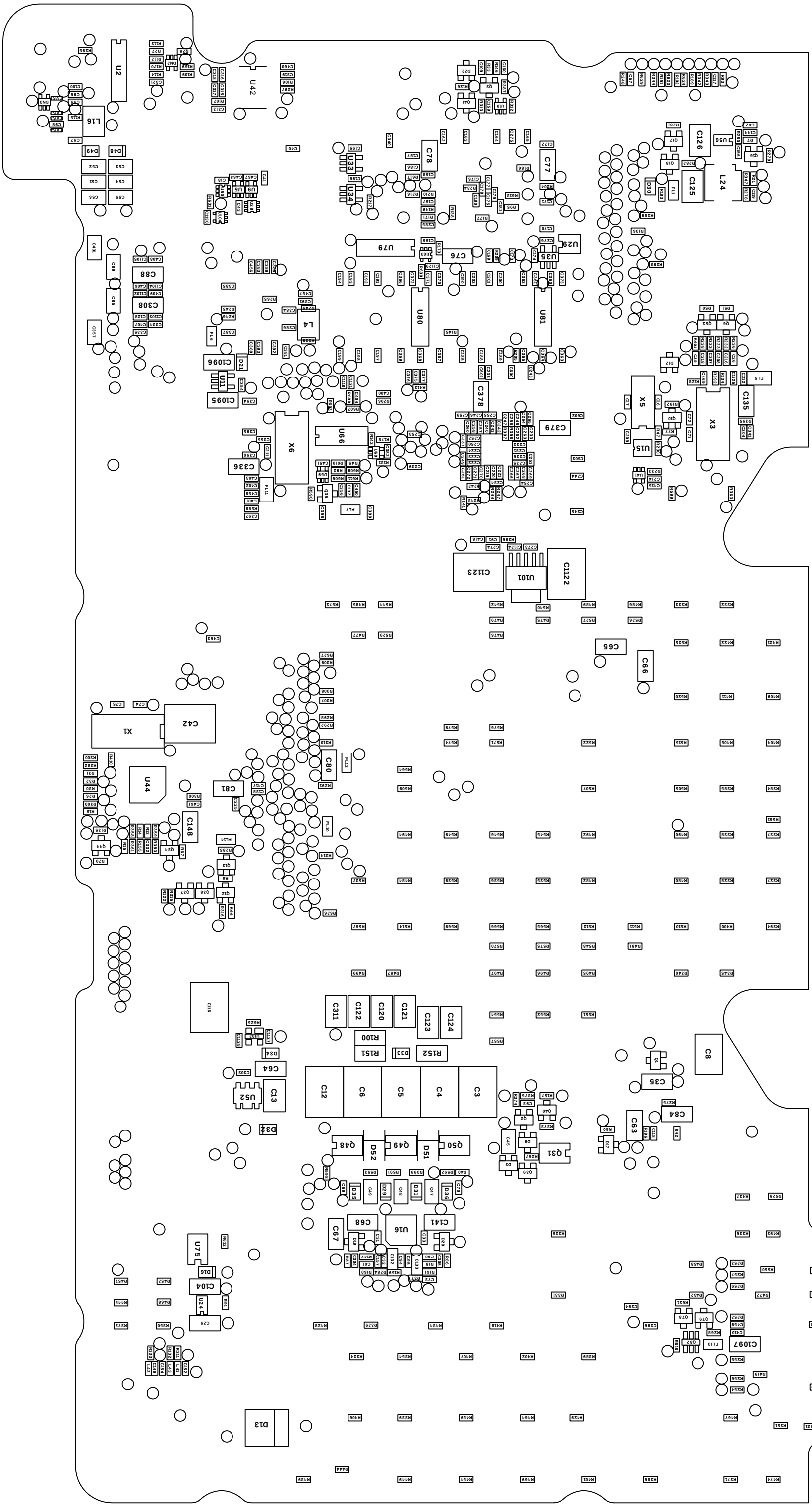
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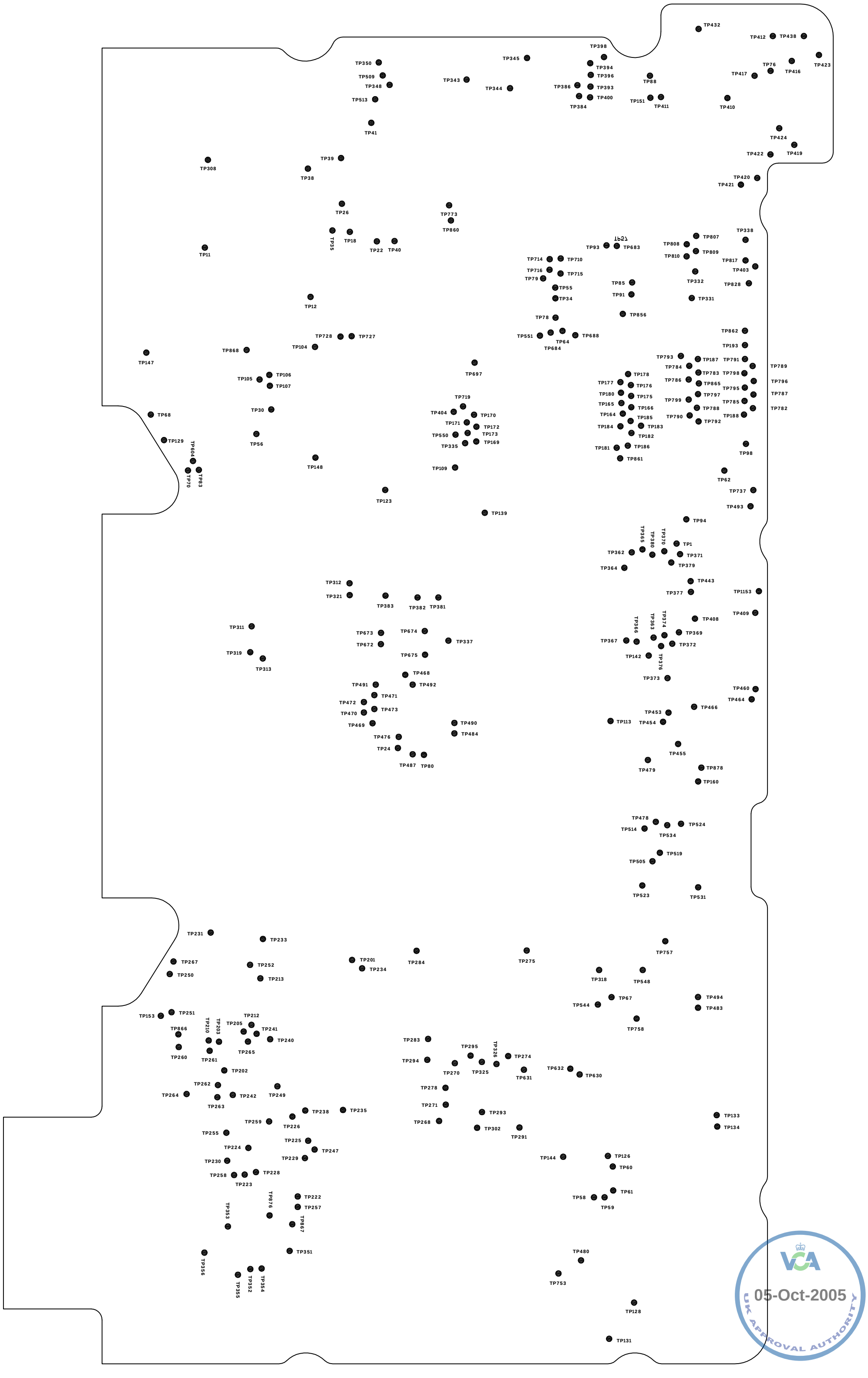
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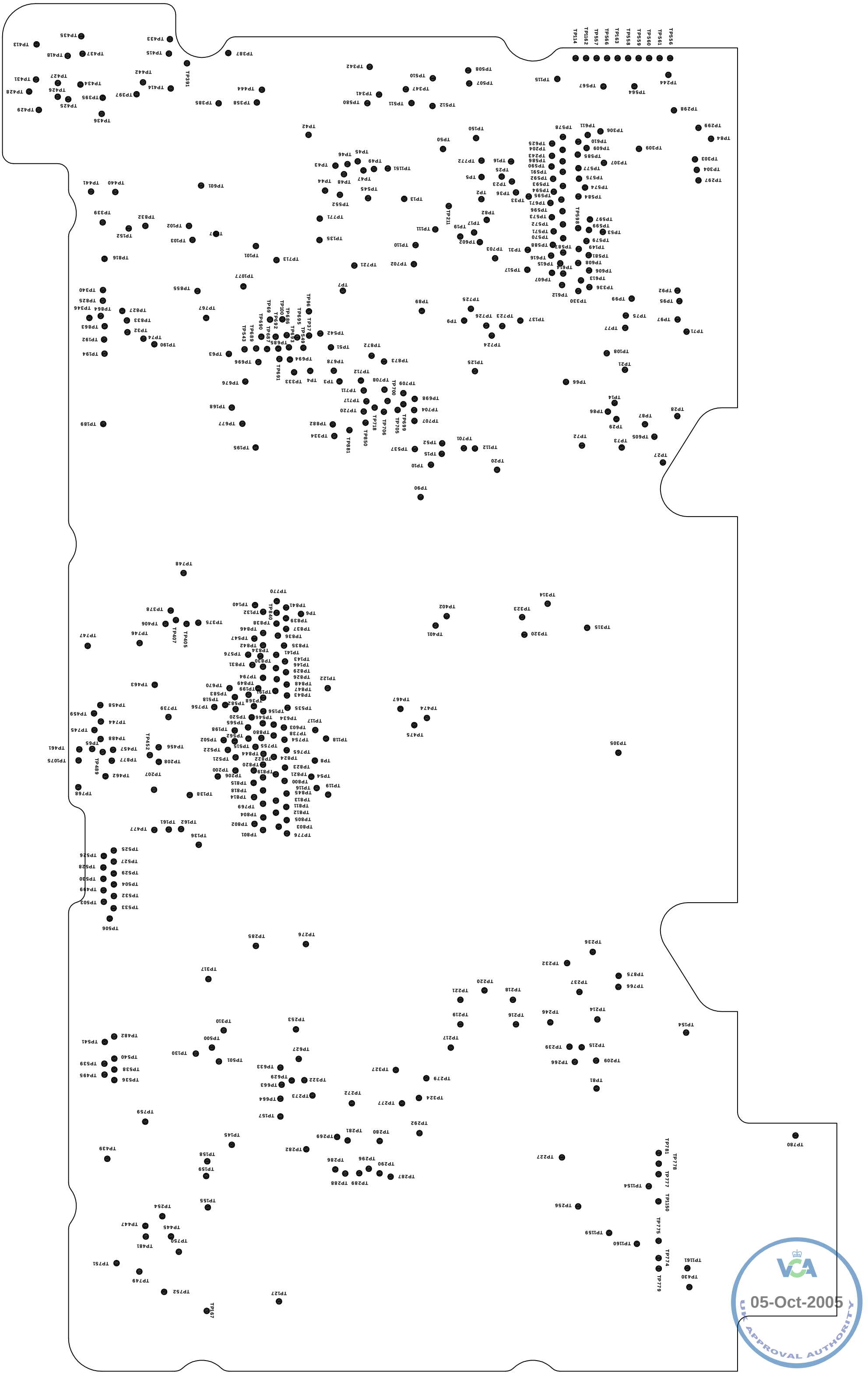
05-Oct-2005
UK APPROVAL AUTHORITY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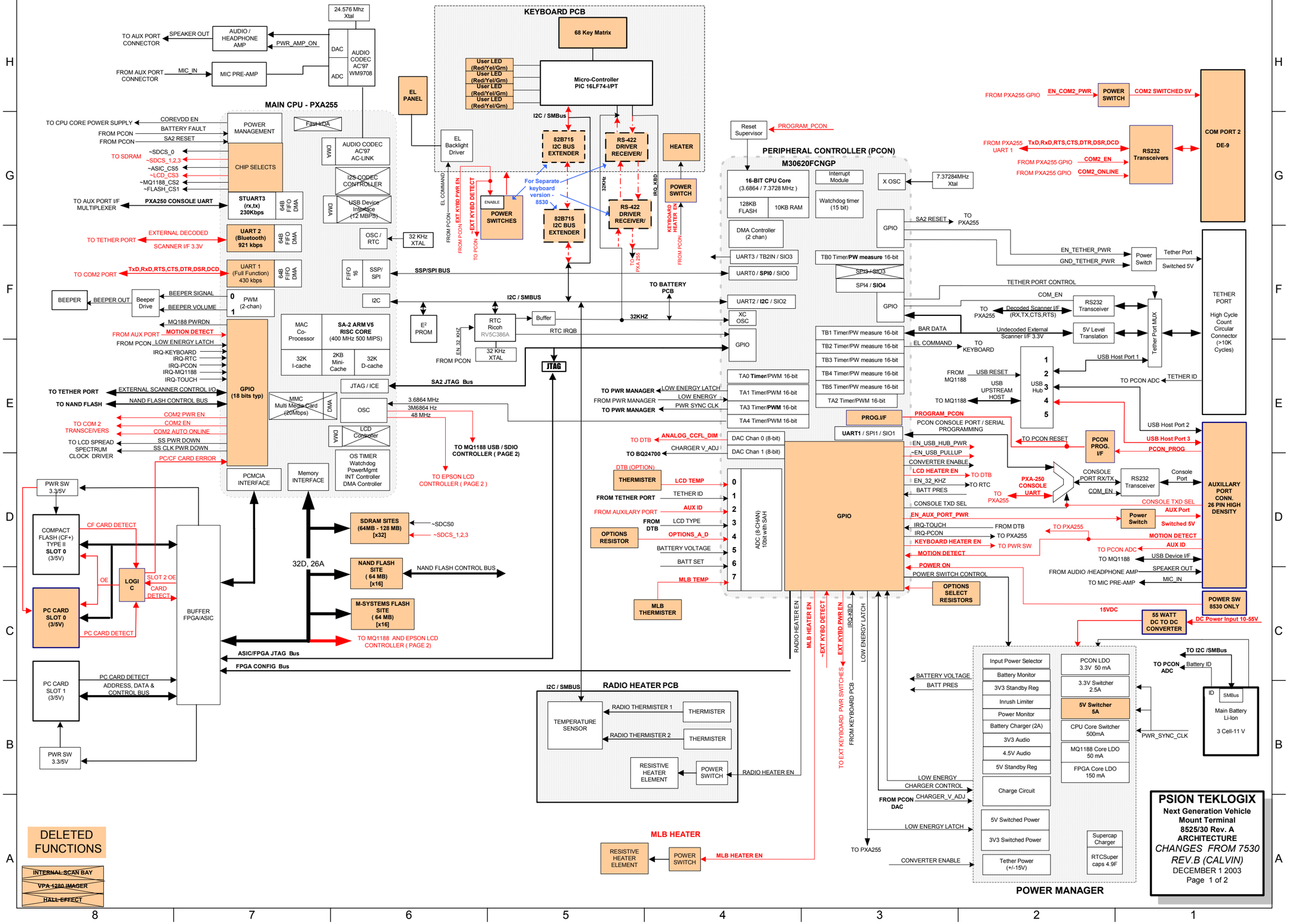
TP1252
TP1253
TP1254
TP1255
TP1256
TP1257
TP1258
TP1259
TP1260
TP1261
TP1262
TP1263
TP1264
TP1265
TP1266
TP1267
TP1268


KEYBOARD PCB
68 Key Matrix
User LED (Red/Yel/Grn)
Micro-Controller PIC 16LF74-I/PT
I2C / SMBus
82B715 I2C BUS EXTENDER
RS-422 DRIVER RECEIVER/
HEATER
EL PANEL
EL Backlight Driver
POWER SWITCHES
POWER SWITCH
For Separate keyboard version - 8530
24.576 Mhz Xtal
AUDIO / HEADPHONE AMP
DAC
ADC
AUDIO CODEC AC'97 WM9708
SPEAKER OUT
PWR_AMP_ON
MIC_IN
MIC PRE-AMP
TO AUX PORT CONNECTOR
FROM AUX PORT CONNECTOR
MAIN CPU - PXA255
POWER MANAGEMENT
Fast-IrDA
CHIP SELECTS
AUDIO CODEC AC'97 AC-LINK
I2S CODEC CONTROLLER
USB Device Interface (12 MBPS)
STUART3 (rx,tx) 230Kbps
UART 2 (Bluetooth) 921 kbps
UART 1 (Full Function) 430 kbps
64B FIFO DMA
OSC / RTC
32 KHz XTAL
FIFO 16
SSP/ SPI
SSP/SPI BUS
I2C
I2C / SMBUS
PWM (2-chan)
BEEPER
Beeper Drive
MAC Co-Processor
SA-2 ARM V5 RISC CORE (400 MHz 500 MIPS)
32K I-cache
2KB Mini-Cache
32K D-cache
E² PROM
RTC Ricoh RV5C386A
Buffer
32 KHz XTAL
JTAG / ICE
JTAG
SA2 JTAG Bus
GPIO (18 bits typ)
MMC Multi Media Card (20Mbps)
OSC
LCD Controller
OS TIMER Watchdog PowerMgmt INT Controller DMA Controller
PCMCIA INTERFACE
Memory INTERFACE
3.6864 MHz
3M6864 Hz
48 MHz
TO MQ1188 USB / SDIO CONTROLLER (PAGE 2)
TO EPSON LCD CONTROLLER (PAGE 2)
SDRAM SITES (64MB - 128 MB) [x32]
NAND FLASH SITE (64 MB) [x16]
M-SYSTEMS FLASH SITE (64 MB) [x16]
32D, 26A
NAND FLASH CONTROL BUS
TO MQ1188 AND EPSON LCD CONTROLLER (PAGE 2)
ASIC/FPGA JTAG Bus
FPGA CONFIG Bus
BUFFER FPGA/ASIC
COMPACT FLASH (CF+) TYPE II SLOT 0 (3/5V)
PC CARD SLOT 0 (3/5V)
PC CARD SLOT 1 (3/5V)
LOGIC
PWR SW 3.3/5V
TO BATTERY PCB
32KHZ
PERIPHERAL CONTROLLER (PCON)
M30620FCNGP
Reset Supervisor
PROGRAM_PCON
16-BIT CPU Core (3.6864 / 7.3728 MHz)
128KB FLASH
10KB RAM
Interrupt Module
Watchdog timer (15 bit)
DMA Controller (2 chan)
X OSC
7.37284MHz Xtal
UART3 / TB2IN / SIO3
UART0 / SPI0 / SIO0
UART2 / I2C / SIO2
XC OSC
TB0 Timer/PW measure 16-bit
SPI3 / SIO3
SPI4 / SIO4
TB1 Timer/PW measure 16-bit
TB2 Timer/PW measure 16-bit
TB3 Timer/PW measure 16-bit
TB4 Timer/PW measure 16-bit
TB5 Timer/PW measure 16-bit
TA2 Timer/PWM 16-bit
TA0 Timer/PWM 16-bit
TA1 Timer/PWM 16-bit
TA3 Timer/PWM 16-bit
TA4 Timer/PWM 16-bit
PROG.I/F
UART1 / SPI1 / SIO1
DAC Chan 0 (8-bit)
DAC Chan 1 (8-bit)
ADC (8-CHAN) 10bit with SAH
GPIO
TO PWR MANAGER
FROM PWR MANAGER
LOW ENERGY LATCH
LOW ENERGY
PWR SYNC CLK
TO DTB
ANALOG_CCFL_DIM
TO BQ24700
CHARGER V_ADJ
DTB (OPTION)
THERMISTER
FROM TETHER PORT
FROM AUXILARY PORT
OPTIONS RESISTOR
LCD TEMP
TETHER ID
AUX ID
LCD TYPE
OPTIONS_A_D
BATTERY VOLTAGE
BATT SET
MLB TEMP
MLB THERMISTER
FROM DTB
RADIO HEATER EN
MLB HEATER EN
~EXT KYBD DETECT
EXT KYBD PWR EN
IRQ-KBD
LOW ENERGY LATCH
TO EXT KEYBOARD PWR SWITCHES
FROM KEYBOARD PCB
RADIO HEATER PCB
TEMPERATURE SENSOR
RADIO THERMISTER 1
RADIO THERMISTER 2
THERMISTER
RESISTIVE HEATER ELEMENT
POWER SWITCH
MLB HEATER
FROM PXA255 GPIO
EN_COM2_PWR
COM2 SWITCHED 5V
COM PORT 2 DE-9
RS232 Transceivers
TxD,RxD,RTS,CTS,DTR,DSR,DCD
COM2_EN
COM2_ONLINE
SA2 RESET
TO PXA255
EN_TETHER_PWR
GND_TETHER_PWR
Power Switch
Tether Port Switched 5V
TETHER PORT CONTROL
COM_EN
Decoded Scanner I/F (RX,TX,CTS,RTS)
RS232 Transceiver
BAR DATA
Undecoded External Scanner I/F 3.3V
5V Level Translation
Tether Port MUX
TETHER PORT High Cycle Count Circular Connector (>10K Cycles)
EL COMMAND
TO KEYBOARD
USB Host Port 1
USB RESET
FROM MQ1188
USB UPSTREAM HOST
TO MQ1188
USB Hub 1 2 3 4 5
TETHER ID
TO PCON ADC
USB Host Port 2
PROGRAM_PCON
PCON CONSOLE PORT / SERIAL PROGRAMMING
TO PCON RESET
PCON PROG. I/F
USB Host Port 3
PCON_PROG
EN_USB_HUB_PWR
~EN_USB_PULLUP
CONVERTER ENABLE
LCD HEATER EN
EN_32_KHZ
BATT PRES
CONSOLE TXD SEL
PXA-250 CONSOLE UART
CONSOLE PORT RX/TX
COM_EN
RS232 Transceiver
Console Port
AUXILLARY PORT CONN. 26 PIN HIGH DENSITY
CONSOLE TXD SEL
AUX Port
Switched 5V
EN_AUX_PORT_PWR
Power Switch
IRQ-TOUCH
IRQ-PCON
FROM DTB
TO PXA255
KEYBOARD HEATER EN
TO PWR SW
MOTION DETECT
TO PCON ADC
AUX ID
TO MQ1188
USB Device I/F
POWER ON
POWER SWITCH CONTROL
FROM AUDIO /HEADPHONE AMP
SPEAKER OUT
TO MIC PRE-AMP
MIC_IN
OPTIONS SELECT RESISTORS
15VDC
55 WATT DC TO DC CONVERTER
POWER SW 8530 ONLY
DC Power Input 10-55V
TO I2C /SMBus
TO PCON ADC
Battery ID
ID
SMBus
Main Battery Li-Ion
3 Cell-11 V
PWR_SYNC_CLK
BATTERY VOLTAGE
BATT PRES
Input Power Selector
Battery Monitor
3V3 Standby Reg
Inrush Limiter
Power Monitor
Battery Charger (2A)
3V3 Audio
4.5V Audio
5V Standby Reg
Charge Circuit
5V Switched Power
3V3 Switched Power
Tether Power (+/-15V)
PCON LDO 3.3V 50 mA
3.3V Switcher 2.5A
5V Switcher 5A
CPU Core Switcher 500mA
MQ1188 Core LDO 50 mA
FPGA Core LDO 150 mA
Supercap Charger
RTCSuper caps 4.9F
LOW ENERGY CHARGER CONTROL
FROM PCON DAC
CHARGER_V_ADJ
LOW ENERGY LATCH
CONVERTER ENABLE
TO PXA255
POWER MANAGER
PSION TEKLOGIX
Next Generation Vehicle Mount Terminal
8525/30 Rev. A
ARCHITECTURE
CHANGES FROM 7530 REV.B (CALVIN)
DECEMBER 1 2003
Page 1 of 2
DELETED FUNCTIONS
INTERNAL SCAN BAY
VPA 1280 IMAGER
HALL EFFECT
05-Oct-2005
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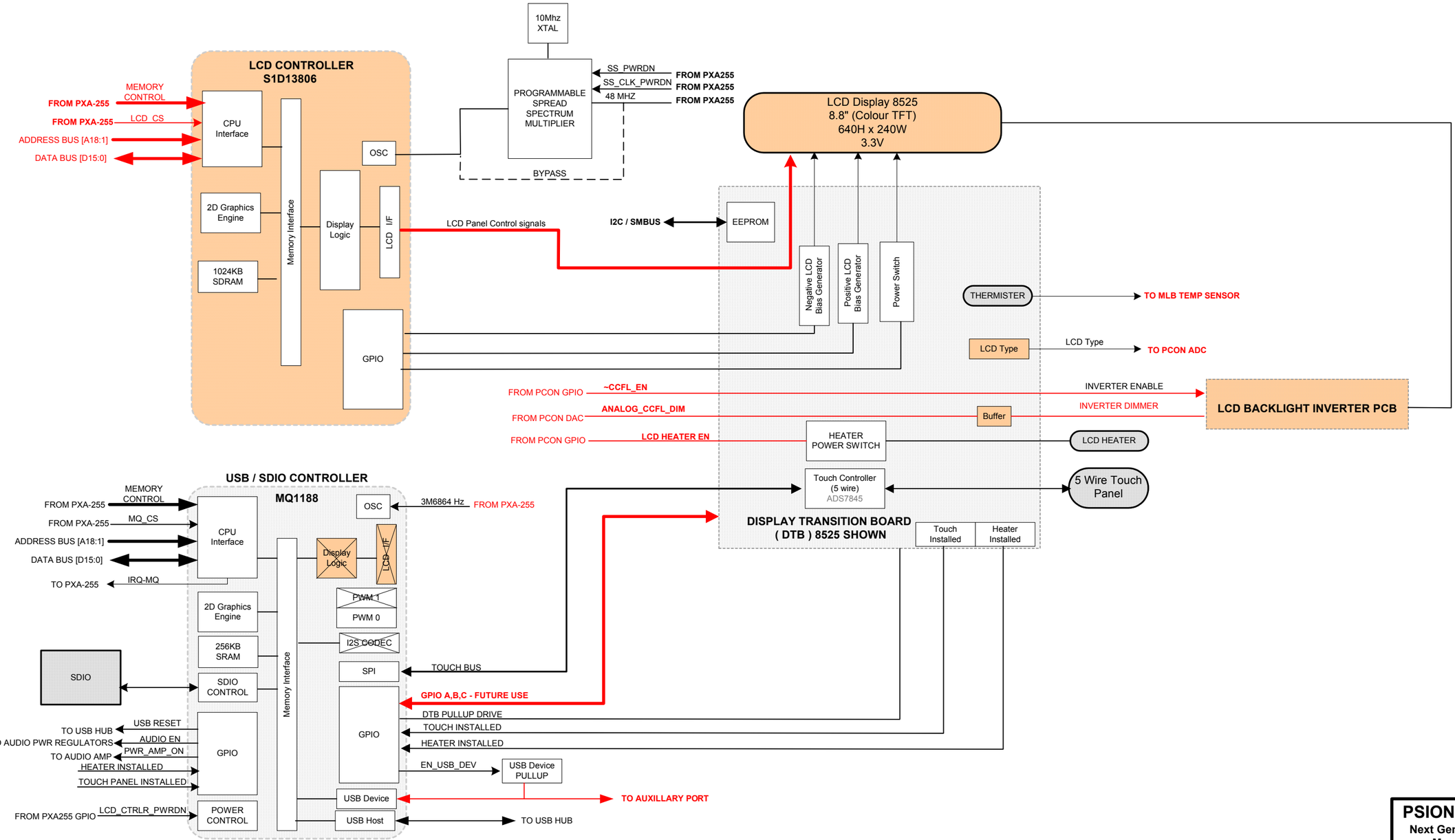

PSION TEKLOGIX
Next Generation Vehicle Mount Terminal
8525/30 Rev. A
ARCHITECTURE
CHANGES FROM 7530 REV.B (CALVIN)
DECEMBER 01 2003
PAGE 2 OF 2

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SHARP

LQ104S1DG21

TFT-LCD Module

(Model Number: LQ104S1DG21)

Specifications

Spec No.:LD-14304

Dated: June 10, 2002

05-Oct-2005
UK APPROVAL AUTHORITY

PREPARED BY : DATE	SHARP	SPEC No. LD-14304
		FILE No.
APPROVED BY : DATE		ISSUE : Apr.10.2002
		PAGE : 15 pages
	AVC LIQUID CRYSTAL DISPLAY GROUP SHARP CORPORATION SPECIFICATION	APPLICABLE GROUP AVC LIQUID CRYSTAL DISPLAY GROUP

DEVICE SPECIFICATION FOR

TFT-LCD Module

MODEL No.

LQ104S1DG21

☐ CUSTOMER'S APPROVAL

DATE

BY

PRESENTED

BY

M.TAKEDA
Department General Manager
Development Engineering Department Ⅱ
AVC LIQUID CRYSTAL DISPLAY Division
AVC LIQUID CRYSTAL DISPLAY GROUP
SHARP CORPORATION

05-Oct-2005
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1. Application

This specifications applies to color TFT-LCD module, LQ104S1DG21.

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The device listed in these specifications sheets was designed and manufactured for use in general electronic equipment.

In case of using the device for applications such as control and safety equipment for transportation(aircraft, trains, automobiles, etc.), rescue and security equipment and various safety related equipment which require higher reliability and safety, take into consideration that appropriate measures such as fail-safe functions and redundant system design should be taken .

Do not use the device for equipment that requires an extreme level of reliability, such as aerospace applications, telecommunication equipment(trunk lines), nuclear power control equipment and medical or other equipment for life support .

SHARP assumes no responsibility for any damage resulting from the use of the device which does not comply with the instructions and the precautions specified in these specifications sheets .

Contact and consult with a SHARP sales representative for any questions about this device .

2. Overview

This module is a color active matrix LCD module incorporating amorphous silicon TFT (Thin Film Transistor). It is composed of a color TFT-LCD panel, driver ICs, control circuit and power supply circuit and a backlight unit. Graphics and texts can be displayed on a 800×3×600 dots panel with 262,144 colors by supplying 18 bit data signal (6bit/color), four timing signals, +3.3V or +5V DC supply voltage for TFT-LCD panel driving and supply voltage for backlight.

The TFT-LCD panel used for this module is a low-reflection and higher-color-saturation type. Therefore, this module is also suitable for the multimedia use.

Optimum viewing direction is 6 o'clock.

Backlight-driving DC/AC inverter is not built in this module.

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3. Mechanical Specifications

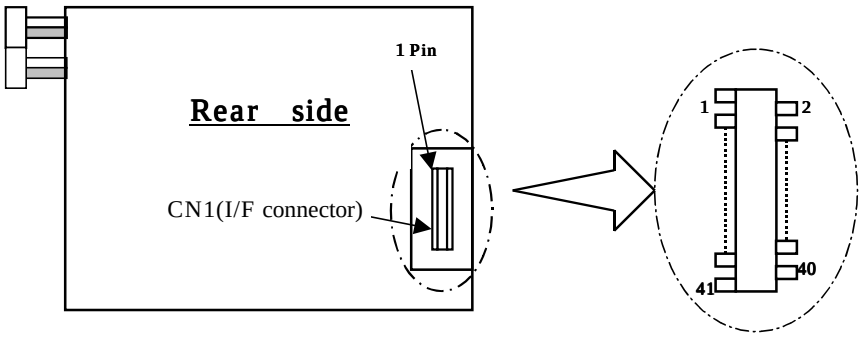
Parameter	Specifications	Unit
Display size	26 (10.4") Diagonal	cm
Active area	211.2(H)×158.4(V)	mm
Pixel format	800(H)×600(V)	pixel
	(1 pixel=R+G+B dots)	
Pixel pitch	0.264(H)×0.264(V)	mm
Pixel configuration	R,G,B vertical stripe	
Display mode	Normally white	
Unit outline dimensions *1 (excluding backlight cables)	246.5(W)×179.4(H)×15.5max(D) Outline dimensions is shown in Fig.1	mm
Mass	620 max	g
Surface treatment	Anti-glare and hard-coating	

4. Input Terminals

4-1. TFT-LCD panel driving

Connector name :CN1 Used connector:DF9MA-41P-1V (Hirose Electric Co., Ltd.)

Corresponding connector: DF9-41S-1V,DF9A-41S-1V,DF9B-41S-1V,DF9M-41S-1V



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Pin No.	Symbol	Function	Remark
1	GND	—	—
2	CK	Clock signal for sampling each data signal	—
3	GND	—	—
4	Hsync	Horizontal synchronous signal	【Note1】
5	Vsync	Vertical synchronous signal	【Note1】
6	GND	—	—
7	GND	—	—
8	GND	—	—
9	R0	ＲＥＤ data signal(LSB)	—
10	R1	ＲＥＤ data signal	—
11	R2	ＲＥＤ data signal	—
12	GND	—	—
13	R3	ＲＥＤ data signal	—
14	R4	ＲＥＤ data signal	—
15	R5	ＲＥＤ data signal(MSB)	—
16	GND	—	—
17	GND	—	—
18	GND	—	—
19	G0	ＧＲＥＥＮ data signal(LSB)	—
20	G1	ＧＲＥＥＮ data signal	—
21	G2	ＧＲＥＥＮ data signal	—
22	GND	—	—
23	G3	ＧＲＥＥＮ data signal	—
24	G4	ＧＲＥＥＮ data signal	—
25	G5	ＧＲＥＥＮ data signal(MSB)	—
26	GND	—	—
27	GND	—	—
28	GND	—	—
29	B0	ＢＬＵＥ data signal(LSB)	—
30	B1	ＢＬＵＥ data signal	—
31	B2	ＢＬＵＥ data signal	—
32	GND	—	—
33	B3	ＢＬＵＥ data signal	—
34	B4	ＢＬＵＥ data signal	—
35	B5	ＢＬＵＥ data signal(MSB)	—
36	GND	—	—
37	ENAB	Signal to settle the horizontal display position	【Note2】
38	R/L	Horizontal display mode select signal	—
39	Vcc	power supply (+3.3Vor+5.0V)	—
40	Vcc	power supply (+3.3Vor+5.0V)	—
41	U/D	Vertical display mode select signal	—

※The shielding case is connected with GND.

【Note1】The polarity of both synchronous signals are negative.

【Note2】The horizontal display start timing is settled in accordance with a rising timing of ENAB signal. In case ENAB is fixed "Low", the horizontal start timing is determined as described in 7-2. Don't keep ENAB "High" during operation.

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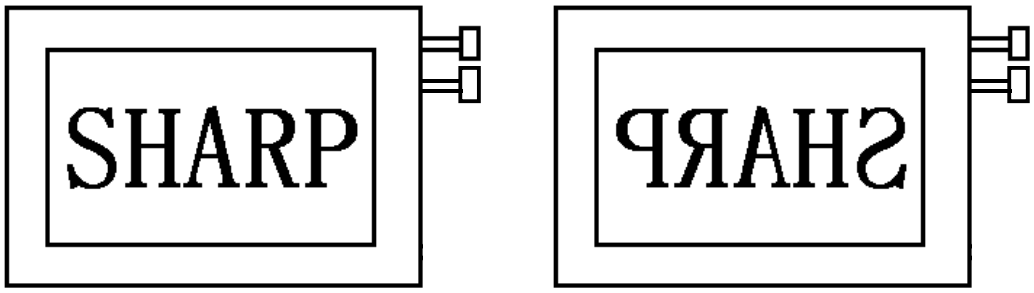
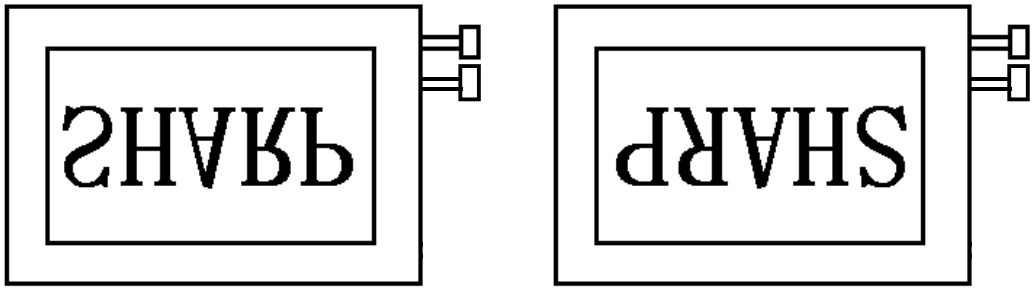
【Note3】R/L=High、U/D=Low　　R/L=Low、U/D=Low

Please do not use this terminal by “open”.



【Note4】R/L=High、U/D=High　　R/L=Low、U/D=High

Please do not use this terminal by “open”.



4-2. Backlight driving

Connector name :CN2、 CN3　　Used connector : BHR-03VS-1(JST)

Corresponding connector :SM02(8.0)B-BHS(JST)

Pin no.	Symbol	Function	Cable color
1	V_{HIGH}	Power supply for lamp (High voltage side)	Pink
2	NC	This is electrically opened.	
3	V_{LOW}	Power supply for lamp (Low voltage side)	White

5. Absolute Maximum Ratings

Parameter	Symbol	Condition	Ratings	Unit	Remark
Input voltage	V_I	Ta=25℃	－0.3 ～ +5.5	V	【Note1】
+5V supply voltage	Vcc	Ta=25℃	0 ～ ＋ 6	V	
Storage temperature	Tstg	－	-35～70	℃	
Operating temperature (Ambient)	Topa	－	-10～65	℃	【Note2】

【Note1】CK,R0～R5,G0～G5,B0～B5,Hsync,Vsync,ENAB, R/L, U/L

【Note2】Humidity：95%RH Max. at Ta≦50℃.

Maximum wet-bulb temperature at 39℃ or less at Ta>50℃.（ No condensation.）

【Note3】Humidity：95%RH Max. at Ta≦40℃.

Maximum wet-bulb temperature at 39℃ or less at Ta>40℃.（ No condensation.）

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6. Electrical Characteristics

6-1.TFT-LCDpaneldriving

Ta＝25℃

Parameter		Symbol	Min.	Typ.	Max.	Unit	Remark
Power Supply	Supply voltage	Vcc	+3.0	+3.3 +5.0	+5.5	V	【Note1】
	Current dissipation	Icc	－	310	450	mA	Vcc=3.3V【Note2】
		Icc	－	330	470	mA	Vcc=5.0V【Note2】
Permissive input ripple voltage		V_{RF}	－	－	100	mVp-p	Vcc=5.0V
Input voltage (Low)		V_{IL}	－	－	0.9	V	【Note3】
Input voltage (High)		V_{IH}	2.4	－	－	V	
Input current (low)		I_{OL1}	－	－	1.0	μA	V_I=0V 【Note4】
		I_{OL2}	-	-	60.0	μA	V_I=0V 【Note5】
Input current (High)		I_{OH1}	－	－	1.0	μA	V_I=Vcc 【Note6】
		I_{OH2}	－	－	60.0	μA	V_I=Vcc 【Note7】

【 NOTE 1】

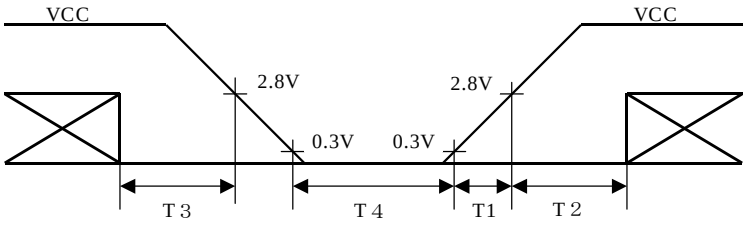
Vcc-turn-on conditions

T１≦１５ｍｓ

０＜Ｔ２≦１０ｍｓ

０＜Ｔ３≦１ ｓ

１ ｓ＜Ｔ４



Vcc-dip conditions

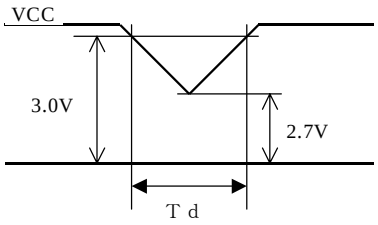
１） ２．７Ｖ≦Ｖｃｃ＜３．０Ｖ

ｔｄ≦１０ｍｓ

２） Ｖｃｃ＜２．７Ｖ

Vcc-dip condition should also follow

The Vcc-turn-on conditions



【Note2】 Typical current situation : 16-gray-bar pattern. Vcc=+3.3V/+5.0V

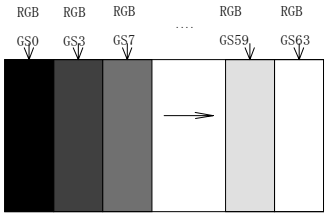
【Note3】 CK,R0~R5,G0~G5,B0~B5,Hsync,Vsync,ENAB,R/L,U/D

【Note4】 CK,R0~R5,G0~G5,B0~B5,Hsync,Vsync,ENAB

【Note5】 R/L

【Note6】 CK,R0~R5,G0~G5,B0~B5,Hsnc,Vsync

【Note7】 ENAB,U/D



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6-2. Backlight driving

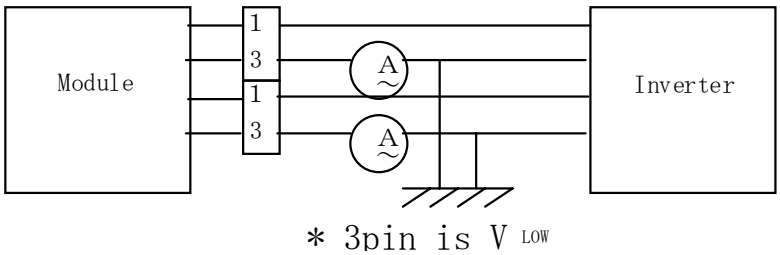
The backlight system is an edge-lighting type with twin CCFT (Cold Cathode Fluorescent Tube).

The characteristics of single lamp are shown in the following table.

Ta=25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark	
Lamp current	I_L	3.5	6.0	7.0	mArms	【Note1】	
Lamp power consumption	P_L	—	2.8	—	W	【Note2】	
Lamp frequency	F_L	40	60	70	KHz	【Note3】	
Kick-off voltage	Vs	—	—	1000	Vrms	Ta=25℃	【Note4】
		—	—	1300	Vrms	Ta =0℃	
		—	—	1450	Vrms	Ta =-10℃	
Lamp life time	L_L	50000	—	—	hour	【Note5】 I_L=6.0mA	
	L_L	30000	—	—	hour	【Note5】 I_L=7.0mA	

【Note1】 Lamp current is measured with current meter for high frequency as shown below.



＊ 3pin is V_{LOW}

【Note2】 At the condition of Y_L =350cd/m^2

【Note3】Lamp frequency may produce interference with horizontal synchronous frequency, and this may cause beat on the display. Therefore lamp frequency shall be detached as much as possible from the horizontal synchronous frequency and from the harmonics of horizontal synchronous to avoid interference.

【Note4】The open output voltage of the inverter shall be maintained for more than 1sec; otherwise the lamp may not be turned on.

【Note5】Since lamp is consumables, the life time written above is referential value and it is not guaranteed in this specification sheet by SHARP.

Lamp life time is defined that it applied either ① or ② under this condition.

(Continuous turning on at Ta=25℃, IL=6 or 7mArms)

① Brightness becomes 50% of the original value under standard condition.

② Kick-off voltage at Ta= -10℃ exceeds maximum value, 1450 Vrms.

In case of operating under lower temp environment, the lamp exhaustion is accelerated and the brightness becomes lower.

(Continuous operating under for around 1 month under lower temp condition may reduce the brightness to half of the original brightness.)

In case of such usage under lower temp environment, periodical lamp exchange is recommended.

【Note6】The performance of the backlight, for example life time or brightness, is much influenced by the characteristics of the DC-AC inverter for the lamp. When you design or order the inverter, please make sure that a poor lighting caused by the mismatch of the backlight and the inverter (miss-lighting, flicker, etc.) never occur. when you confirm it, the module should be operated in the same condition as it is installed in your instrument.

【Note7】It is required to have the inverter designed so that to allow the impedance deviation of the two CCFT lamps and the capacity deviation of barast capacitor.

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7. Timing Characteristics of input signals

Timing diagrams of input signal are shown in Fig.2.

7-1. Timing characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Remark
Clock	Frequency	1/Tc	—	40.0	42.0	MHz	—
	High time	Tch	6	—	—	ns	—
	Low time	Tcl	6	—	—	ns	—
	Duty ratio	Th/T	40	50	60	%	—
Data	Setup time	Tds	3	—	—	ns	—
	Hold time	Tdh	5	—	—	ns	—
Horizontal sync. signal	Cycle	TH	20.8	26.4	—	μs	—
			832	1056	—	clock	—
	Pulse width	THp	2	128	200	clock	—
Vertical sync. signal	Cycle	TV	628	666	798	line	—
	Pulse width	TVp	2	4	6	line	—
Horizontal display period		THd	800	800	800	clock	—
Hsync-Clock phase difference		THc	0	—	Tc-10	ns	—
Hsync-Vsync phase difference		TVh	0	—	TH-THp	ns	—
Vertical data start position		TVs	23	23	23	line	—

Note) In case of lower frequency, the deterioration of display quality, flicker etc.,may be occurred.

7-2. Horizontal display position

The horizontal display position is determined by ENAB signal and the input data corresponding to the rising edge of ENAB signal is displayed at the left end of the active area.

Parameter		symbol	Min.	Typ.	Max.	Unit	Remark
Enable signal	Setup time	Tes	5	—	Tc-10	ns	—
	Pulse width	Tep	2	800	TH-10	clock	—
Hsync-Enable signal phase difference		THe	58	88	170	clock	—

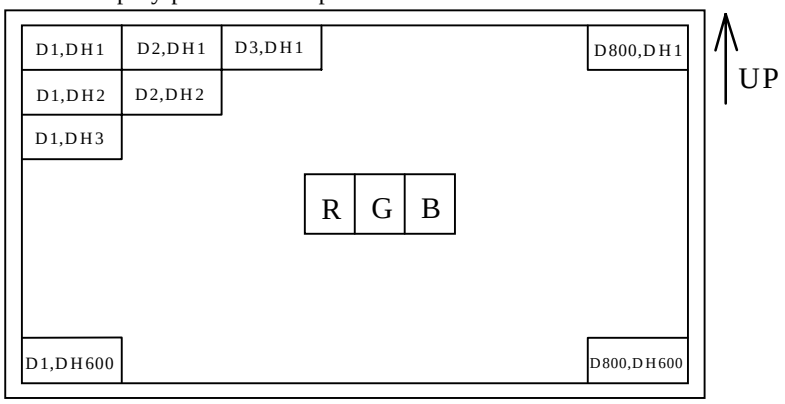
Note) When ENAB is fixed "Low", the display starts from the data of C88(clock) as shown in Fig.2.

7-3. Vertical display position

The vertical display position, TVs is fixed “23” (line).

7-4. Input Data Signals and Display Position on the screen

Display position of input data



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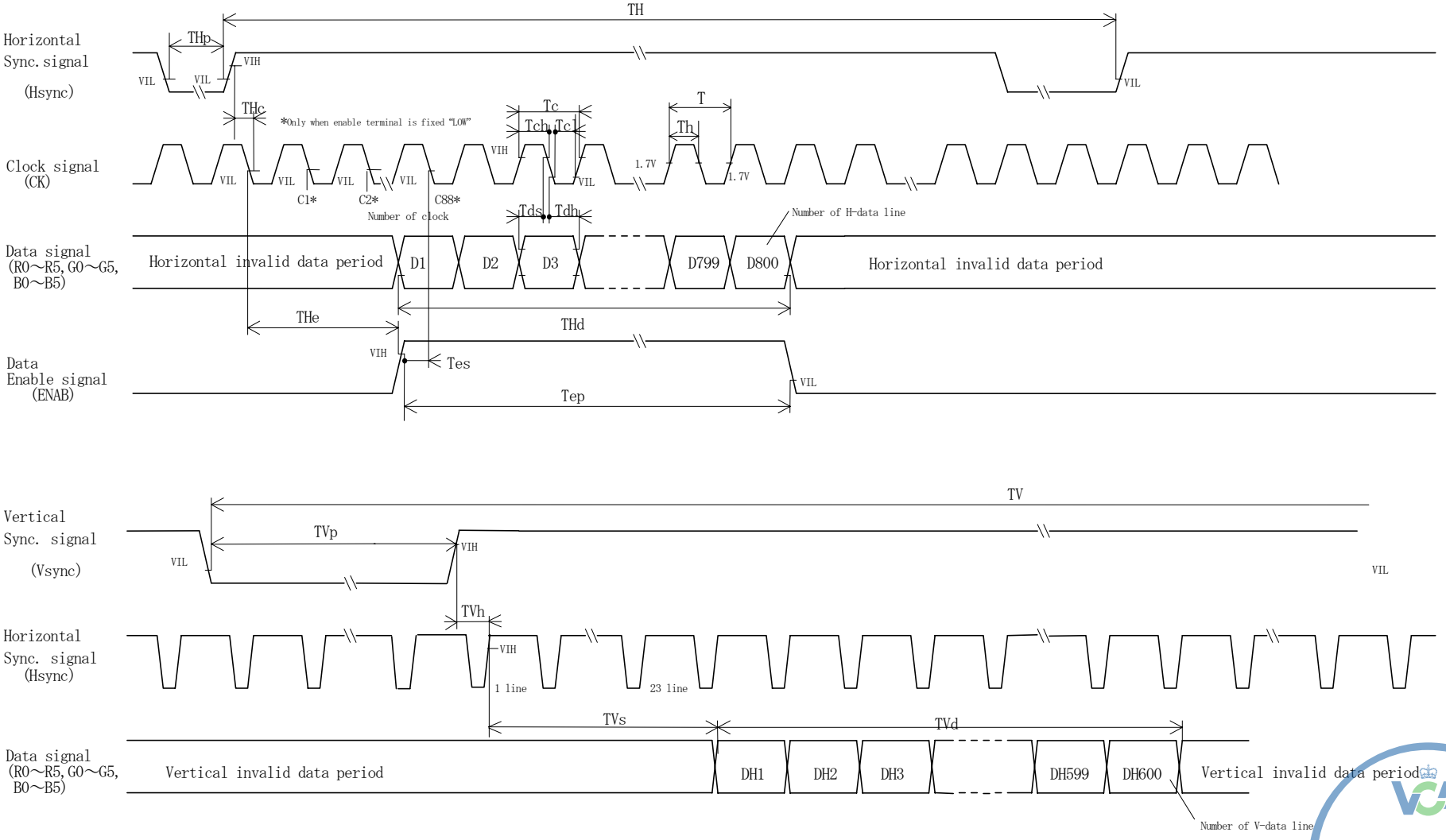

Fig. 2 Input signal waveforms

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8. Input Signals, Basic Display Colors and Gray Scale of Each Color

	Colors & Gray scale	Data signal																	
		Gray Scale	R0	R1	R2	R3	R4	R5	G0	G1	G2	G3	G4	G5	B0	B1	B2	B3	B4	B5
Basic Color	Black	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blue	—	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	Green	—	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
	Cyan	—	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Red	—	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Magenta	—	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1
	Yellow	—	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	White	—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gray Scale of Red	Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	GS1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Darker	GS2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	↓				↓						↓						↓		
	⇩	↓				↓						↓						↓		
	Brighter	GS61	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	⇩	GS62	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Red	GS63	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Gray Scale of Green	Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	GS1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	Darker	GS2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	⇧	↓				↓						↓						↓		
	⇩	↓				↓						↓						↓		
	Brighter	GS61	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	0
	⇩	GS62	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0
	Green	GS63	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
Gray Scale of Blue	Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	GS1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Darker	GS2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	⇧	↓				↓						↓						↓		
	⇩	↓				↓						↓						↓		
	Brighter	GS61	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
	⇩	GS62	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	Blue	GS63	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

0 :Low level voltage, 1 : High level voltage

Each basic color can be displayed in 64 gray scales from 6 bit data signals. According to the combination of total 18 bit data signals, the 262,144-color display can be achieved on the screen.

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9. Optical Characteristics

Ta=25℃, Vcc=+3.3V or +5V

Parameter		Symbol	Condition	Min	Typ	Max	Unit	Remark
Viewing Angle Range	Horizontal	θ 21, θ 22	CR≧10	60	70	—	Deg.	【Note1,4】
	Vertical	θ 11		35	40	—	Deg.	
		θ 12		55	70	—	Deg.	
Contrast ratio		CR	θ =0°	150	—	—	—	【Note2,4】
			Best Viewing Angle	—	300	—	—	
Response Time	Rise	τ r	θ =0°	—	20	—	m s	【Note3,4】
	Decay	τ d		—	40	—	m s	
Chromaticity of White		x		—	0.313	—		【Note4】
		y		—	0.329	—		
Luminance of white		Y_L		280	350	—	cd/m²	
White Unifomity		δ w		—	—	1.45	—	【Note5】
Viewing Angle range as a Brightness Definition	Horizontal	θ 21, θ 22	50% of the maximum brightness	—	35	—	Deg.	【Note1】 (Reference value)
	Vertical	θ 11		—	25	—	Deg.	
		θ 12		—	30	—	Deg.	

※The measurement shall be executed 30 minutes after lighting at rating. (typical condition:I_L=6.0mArms)

The optical characteristics shall be measured in a dark room or equivalent state with the method shown in Fig.3 below.

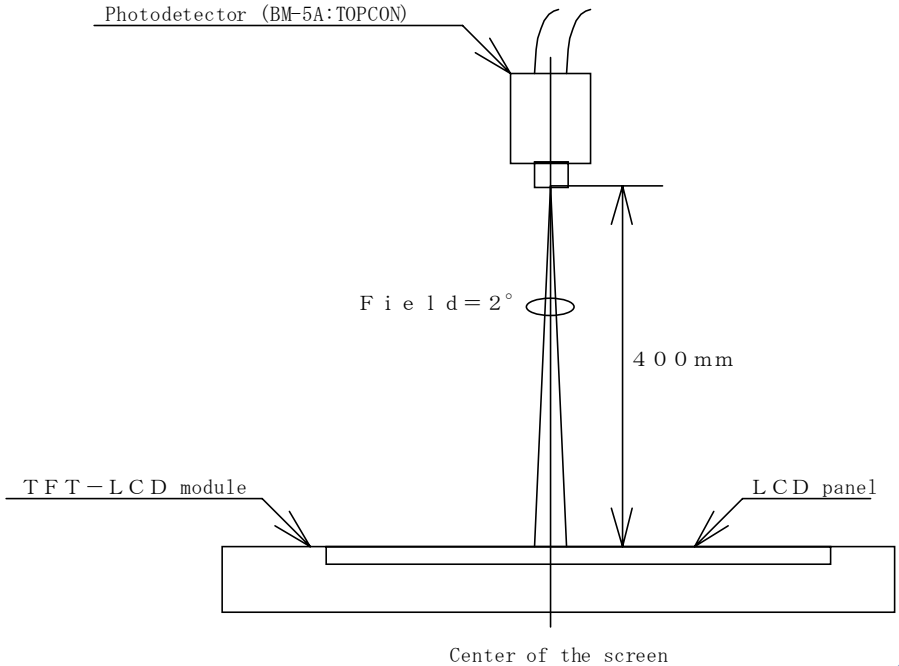

Fig.3 Optical characteristics measurement method

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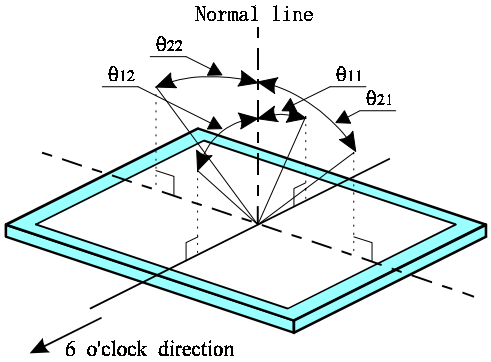
【Note1】Definitions of viewing angle range:



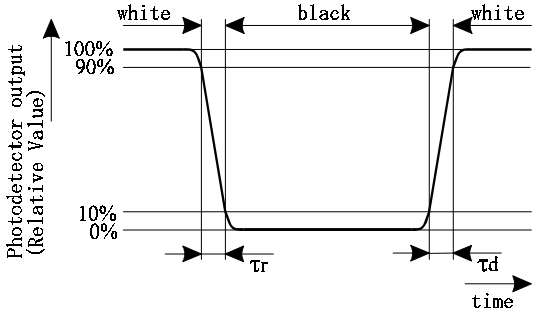
【Note2】Definition of contrast ratio:

The contrast ratio is defined as the following.

$$\text{Contrast Ratio (CR)} = \frac{\text{Luminance (brightness) with all pixels white}}{\text{Luminance (brightness) with all pixels black}}$$

【Note3】Definition of response time:

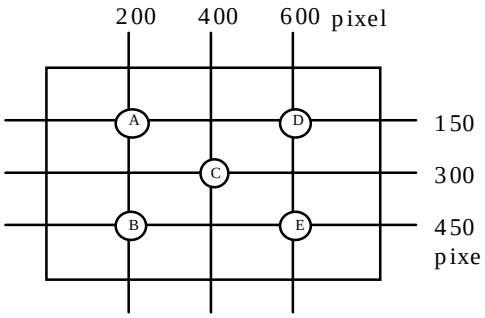
The response time is defined as the following figure and shall be measured by switching the input signal for "black" and "white" .



【Note4】This shall be measured at center of the screen.

【Note5】Definition of white uniformity:

White uniformity is defined as the following with five measurements (A～E).



$$\delta w = \frac{\text{Maximum Luminance of five points (brightness)}}{\text{Minimum Luminance of five points (brightness)}}$$

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10. Display Quantity

The display quality of the color TFT-LCD module shall be in compliance with the Incoming Inspection Standard.

11. Handling Precautions

a) Be sure to turn off the power supply when inserting or disconnecting the cable.

b) Be sure to design the cabinet so that the module can be installed without any extra stress such as warp or twist.

c) Since the front polarizer is easily damaged, pay attention not to scratch it.

d) Wipe off water drop immediately. Long contact with water may cause discoloration or spots.

e) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.

f) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface. Handle with care.

g) Since CMOS LSI is used in this module, take care of static electricity and injure the human earth when handling.

h) Observe all other precautionary requirements in handling components.

i) This module has its circuitry PCBs on the rear side and should be carefully handled in order not to be stressed.

j) The polarizer surface on the panel is treated with Anti-Glare for low reflection. In case of attaching protective board over the LCD. Be careful about the optical interface fringe etc. Which degrades display quality.

k) Connect GND to 4 place of mounting holes to stabilize against EMI and external noise.

l) There are high voltage portions on the backlight and very dangerous. Careless touch may lead to electrical shock. When exchange lamps or service. Turn off the power without tail.

m) Be sure not to apply tensile stress to the lamp lead cable.

n)Cold cathode fluorescent lamp in LCD panel contains a small amount of mercury, please follow local ordinances or regulations for disposal.

12.Packing form

Piling number of cartons	5（Max）
Packing quantity in one carton	20
Carton size [mm]	494(W)×326(D)×433(H)
Total mass of one carton filled with full modules	15.6kg

13. Reliability test items

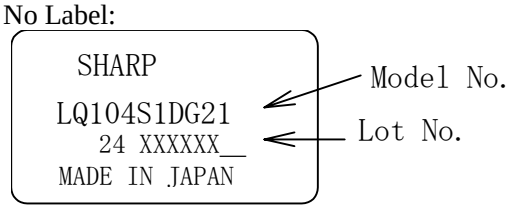
No.	Test item	Conditions
1	High temperature & high humidity storage test	Ta= 50℃ ; 95%RH 240h (No condensation)
2	High temperature storage test	Ta= 70℃ 240h
3	Low temperature storage test	Ta= -35℃ 240h
4	High temperature & high humidity operation test	Ta= 40℃ ; 95%RH 240h (No condensation)
5	High temperature operation test	Ta= 65℃ 240h
6	Low temperature operation test	Ta= -10℃ 240h
7	Vibration test (non- operating)	Frequency: 10～57Hz/Vibration width (one side):0.075mm : 58～500Hz/Gravity:9.8m/s^2 Sweep time : 11 minutes Test period : 3 hours (1 hour for each direction of X,Y,Z)
8	Shock test (non- operating)	Max. gravity : 490m/s^2 Pulse width : 11ms, half sine wave Direction : ±X,±Y,±Z once for each direction.

【Result Evaluation Criteria】

Under the display quality test conditions with normal operation state, these shall be no change which may affect practical display function.

14. Others

1) Lot No Label:



2) Adjusting volume have been set optimally before shipment, so do not change any adjusted value.
If adjusted value is changed, the specification may not be satisfied.

3) Disassembling the module can cause permanent damage and should be strictly avoided.

4) Please be careful since image retention may occur when a fixed pattern is displayed for a long time.

5) Do not use LCD module in the atmosphere of corrosive gases, such as sulfide gas or chlorine gases.
Polarizer may deteriorated or cause chemical reaction that can lead to short circuits at the terminal Points.
Do not use the material, which compounds contain sulfide or chlorine articles in the vicinity of LCD module.
At high temperature, these compounds produce corrosive gases.

6) If any problem occurs in relation to the description of this specification , it shall be resolved through discussion with spirit of cooperation.

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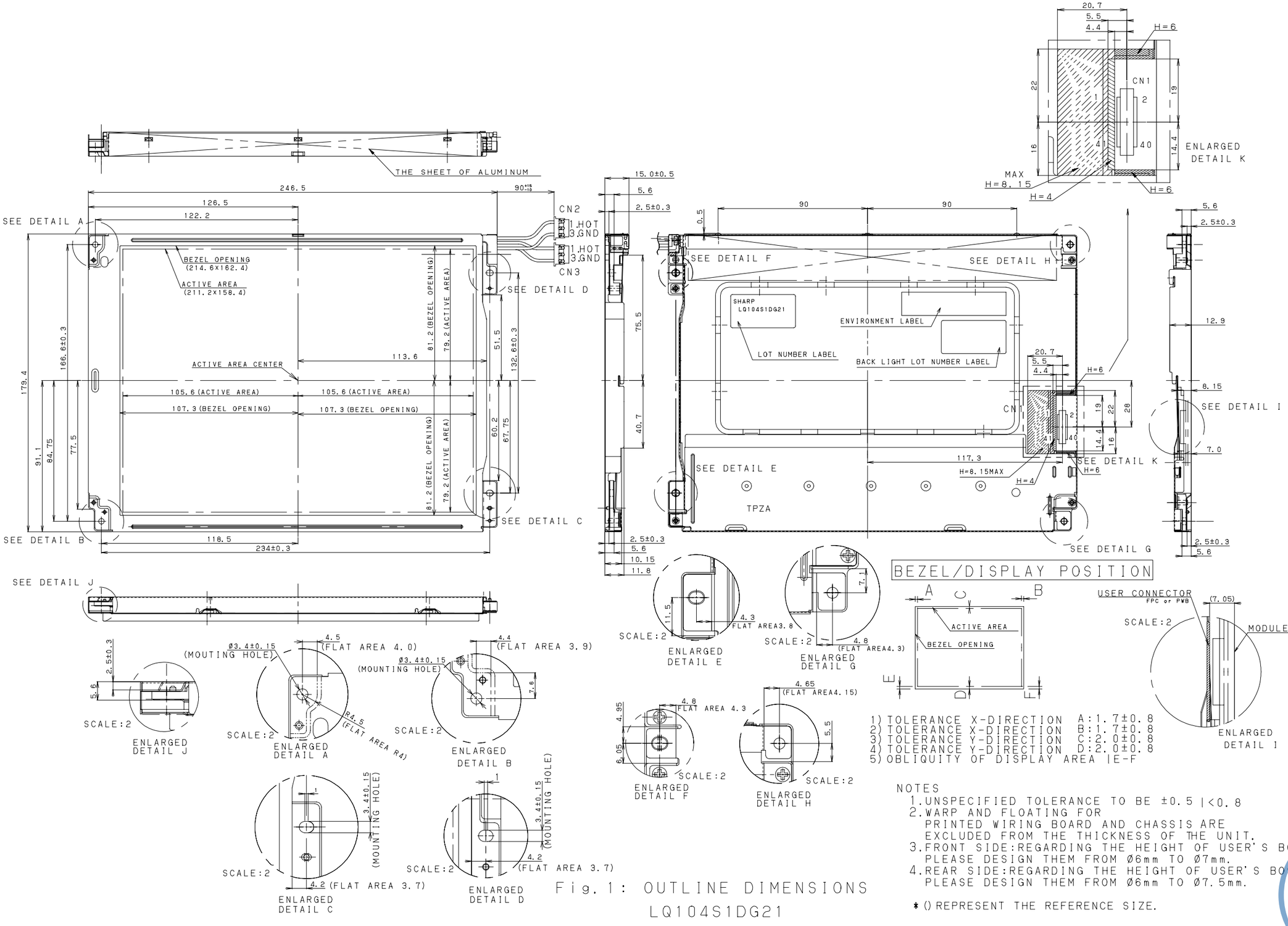

1) TOLERANCE X-DIRECTION A:1.7±0.8
2) TOLERANCE X-DIRECTION B:1.7±0.8
3) TOLERANCE Y-DIRECTION C:2.0±0.8
4) TOLERANCE Y-DIRECTION D:2.0±0.8
5) OBLIQUITY OF DISPLAY AREA |E-F

NOTES
1. UNSPECIFIED TOLERANCE TO BE ±0.5 |<0.8
2. WARP AND FLOATING FOR PRINTED WIRING BOARD AND CHASSIS ARE EXCLUDED FROM THE THICKNESS OF THE UNIT.
3. FRONT SIDE:REGARDING THE HEIGHT OF USER'S BOSSES, PLEASE DESIGN THEM FROM Ø6mm TO Ø7mm.
4. REAR SIDE:REGARDING THE HEIGHT OF USER'S BOSSES, PLEASE DESIGN THEM FROM Ø6mm TO Ø7.5mm.

* () REPRESENT THE REFERENCE SIZE.

Fig. 1: OUTLINE DIMENSIONS
LQ104S1DG21

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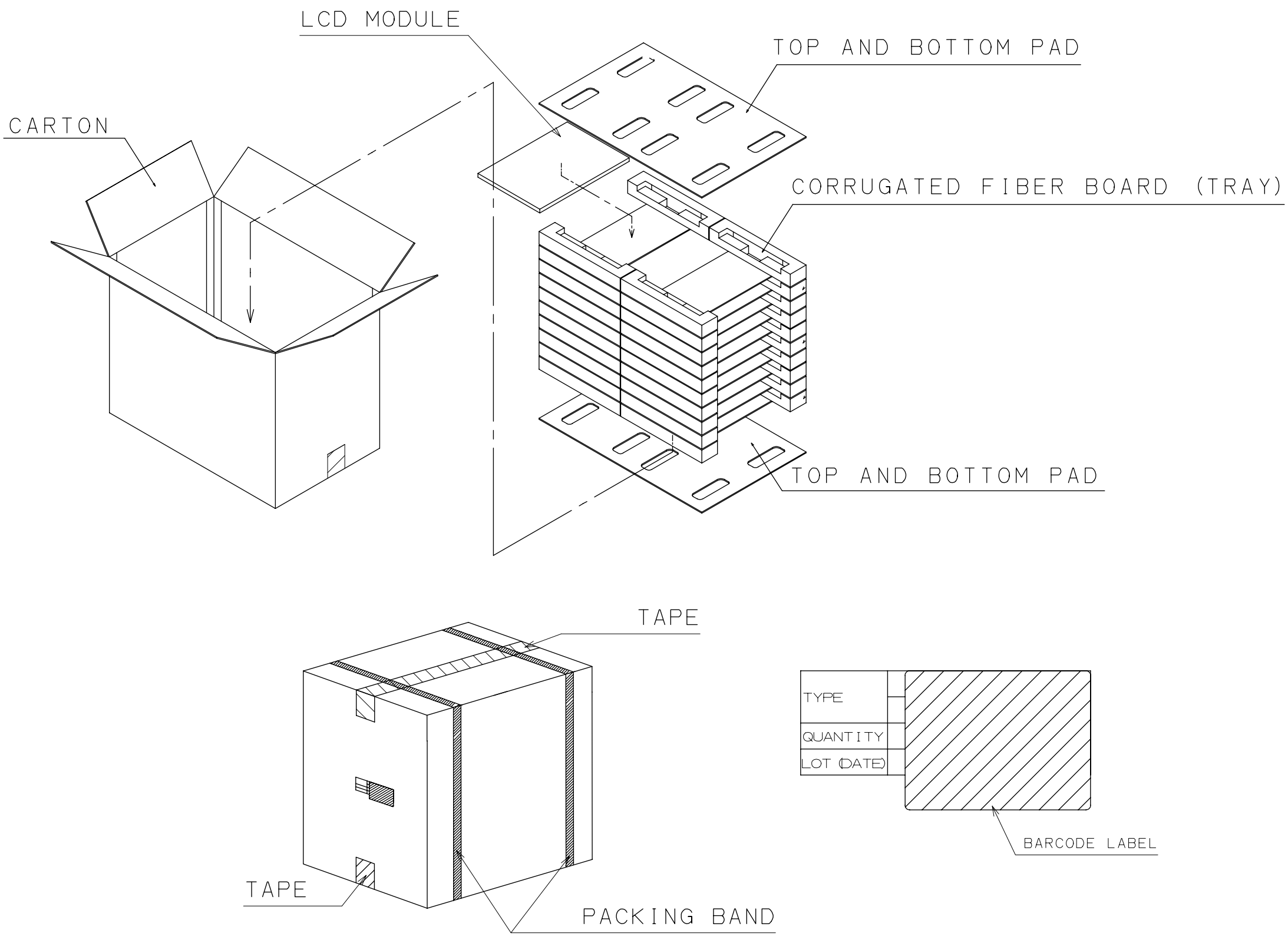

FIG. 3:PACKING FORM

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Appendix 2

Test Report Serial Number RFI/EMCE1/RP47590JD01A

TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: Psion Teklogix.
8530 Venicle Mount Computer.

To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII, Emissions

Test Report Serial No:
RFI/EMCE1/RP47590JD01A

VCA Job No.: EAF067676

This Test Report Is Issued Under The Authority Of Andrew Brown, Operations Manager	
Tested By: Steven White	**Checked By: Claire Ashman.**
Report Copy No: PDF01	
Issue Date: 04 October 2005	**Test Dates: 30 August 2005 to 31 August 2005**

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05-Oct-2005

Test of: **Psion Teklogix.**
8530 Venicle Mount Computer.
To: **95/54/EC: 1995**
ESA Approval Annex VII and Annex VIII, Emissions

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Test of: Psion Teklogix.
8530 Venicle Mount Computer.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII, Emissions

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Test of: Psion Teklogix.
8530 Venicle Mount Computer.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII, Emissions

1. Client Information

1.1. Applicant

Company Name:	Psion Teklogix
Address:	2100 Meadowvale Blvd. Mississauga, ON, L5N 7J9, Canada
Contact Name:	George Tao
Telephone No:	905-812-6200 ext. 3705
E-mail:	George.tao@psionteklogix,com

1.2. Manufacturer

Company Name:	Psion Teklogix
Address:	2100 Meadowvale Blvd. Mississauga, ON, L5N 7J9, Canada
Contact Name:	George Tao
Telephone No:	905-812-6200 ext. 3705
E-mail:	George.tao@psionteklogix,com

2. Equipment Under Test (EUT)

The following information (with the exception of the date of receipt) has been supplied by the client:

2.1. Identification of Equipment Under Test (EUT)

Brand Name:	Psion Teklogix
Model Name or Number:	Vehicle Mount Computer
Unique Type Identification:	8530
Serial Number:	Demo Unit # 9
Country of Manufacture:	Canada
Date of Receipt:	30 August 2005

2.2. Accessories

Description:	Antenna
Brand Name:	None Sated
Model Name or Number:	None Sated
Serial Number:	None Sated
Cable Length and Type:	Coax, 5m
Connected to Port:	Antenna Port on EUT

Description:	Hand Scanner
Brand Name:	Symbol
Model Name or Number:	Not Stated
Serial Number:	Not Stated
Cable Length and Type:	Multicore
Connected to Port:	Scanner Port of EUT

2.3. Description of EUT

The equipment under test is a vehicle mounted terminal with *Bluetooth*, 802.11b and narrowband radio (433 MHz to 470 MHz) modules.

"The *Bluetooth*® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by RFI Global Services Ltd. is under license. Other trademarks and trade names are those of their respective owners."

2.4. Modifications Incorporated in the EUT

During the course of testing the EUT was not modified.

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2.5. Additional Information Related To Testing

Type of ESA:	Vehicle Mount Computer
Weight:	9.5 lbs
Dimensions:	11 3/4" W x 4 5/8" H x 11 1/2" L
Power Supply Requirement:	
DC Supply (Volts)	Not Applicable
AC Supply (Volts)	Not Applicable
Internal Battery Supply (Volts)	Not Applicable
Other	12 or 24Vehicle Battery
Electrical System Rated Voltage:	12-24 V
Grounding Polarity:	Negative
Intended Operating Environment:	Commercial, Light Industry and Automotive
Cycle Time:	Less than 1 sec.

2.6. Port Identification

Port	Description	Type	Applicable
1	Enclosure	-	Y
2	12V Supply Input	-	N
3	USB Triple Cable	-	N
4	RS232 Cable	-	N
5	Keyboard Cable	-	N
6	Coaxial Antenna Connection	-	N
7	Scanner	-	N

2.7. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	Handheld Module
Brand Name:	Psion Teklogix
Model Name or Number:	7530
Serial Number:	654627
Cable Length and Type:	Not Applicable
Connected to Port:	Air Link to EUT

Description:	Power supply for Handheld
Brand Name:	Symbol
Model Name or Number:	Symbol
Serial Number:	Symbol
Cable Length and Type:	2 Core
Connected to Port:	AC Mains, DC Input of Handheld Module

3. Test Specification, Methods & Procedures

3.1. Test Specification

Reference:	95/54/EC: 31st October 1995
Title:	Commission Directive 95/54/EC of 31st October 1995 adapting to technical progress Council Directive 72/245/EEC on the approximation of the laws of the Member States relating to the suppression of radio interference produced by spark-ignition engines fitted to motor vehicles and amending Directive 70/156/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers.

3.2. Methods and Procedures

The methods and procedures used for parts of 95/54/EC: 1995 were as detailed in:

Annex	Title
Annex VII	Method of Measurement of Broadband Electromagnetic Emissions From Electrical/Electronic Sub-Assemblies
Annex VIII	Method of Measurement of Narrowband Electromagnetic Emissions From Electrical/Electronic Sub-Assemblies

3.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the annexes referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

4. Deviations from the Test Specification

None.

5. Operation of the EUT During Testing

5.1. Operating Conditions

The EUT was tested in a normal laboratory environment.

During testing, the EUT was powered using a +13.5V and 27V ±10% DC supply with a ripple voltage of less than 1.5%.

5.2. Operating Modes

During testing, the EUT was operated in the following mode(s):

Powered from a vehicle battery, running test software exercising the radio link to the handheld unit.

5.3. Configuration and Peripherals

During testing, the EUT was configured in the following way:

The EUT was connected to a scanner, keyboard and one or two 12V battery (via vehicle LISNs). An air link was established from the handheld unit to the EUT.

6. Summary of Test Results

Test Name	Section	Port Type	Compliancy Status
Radiated Narrowband Emissions	Annex VIII	Enclosure	Complied
Radiated Broadband Emissions	Annex VII	Enclosure	Complied

6.1. Location of Tests

All the measurements described in this report were performed at the premises of
RFI Global Services Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England.

7. Measurements, Examinations and Derived Results

7.1. General Comments

This section contains test results only. Details of the test methods and procedures can be found in section 8 of this report.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to section 8 for details of measurement uncertainties.

7.2. Test Results

7.2.1. Radiated Narrowband Emissions - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz): 12V

7.2.1.1. Plots of the initial scans can be found in appendix 4.

7.2.1.2. The following table lists frequencies at which emissions were measured using a peak or an average detector, at a test distance of 1 metre (results incorporate antenna factors and cable losses):

Results:

Frequency (MHz)	Line	Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
45.000	Vert.	16.90	49.50	32.60	-	Complied
45.000	Horiz.	13.50	49.50	36.00	-	Complied
65.000	Vert.	17.60	43.05	25.45	-	Complied
65.000	Horiz.	19.70	43.05	23.35	-	Complied
87.000	Vert.	14.70	44.97	30.27	-	Complied
87.000	Horiz.	14.70	44.97	30.27	-	Complied
120.000	Vert.	19.80	47.08	27.28	-	Complied
120.000	Horiz.	18.10	47.08	28.98	-	Complied
150.000	Vert.	18.90	48.55	29.65	-	Complied
150.000	Horiz.	21.90	48.55	26.65	-	Complied
190.000	Vert.	22.30	50.10	27.80	-	Complied
190.000	Horiz.	20.60	50.10	29.80	-	Complied
230.000	Vert.	20.00	51.36	31.36	-	Complied
230.000	Horiz.	22.10	51.36	29.26	-	Complied
280.000	Vert.	20.70	52.60	31.90	-	Complied
280.000	Horiz.	18.50	52.60	34.10	-	Complied
335.480	Vert.	32.70	53.84	21.14	-	Complied
335.480	Horiz.	33.10	53.84	20.74	-	Complied
380.000	Vert.	27.60	54.60	27.00	-	Complied
380.000	Horiz.	20.60	54.60	34.00	-	Complied
430.000	Vert.	35.60	55.00	19.40	-	Complied
430.000	Horiz.	28.10	55.00	26.90	-	Complied
461.013	Vert.	N/A	N/A	N/A	1	Complied
461.013	Horiz.	N/A	N/A	N/A	1	Complied

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Test of: Psion Teklogix.
8530 Venicle Mount Computer.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII, Emissions

Radiated Narrowband Emissions - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz): 12V (Continued)

Frequency (MHz)	Line	Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
527.163	Vert.	38.00	55.00	17.00	-	Complied
527.163	Horiz.	33.30	55.00	22.00	-	Complied
600.000	Vert.	27.30	55.00	27.70	-	Complied
600.000	Horiz.	27.60	55.00	27.40	-	Complied
750.000	Vert.	28.90	55.00	26.10	-	Complied
750.000	Horiz.	30.30	55.00	24.70	-	Complied
900.000	Vert.	31.70	55.00	23.30	-	Complied
900.000	Horiz.	32.70	55.00	22.30	-	Complied

Note(s):

1. *This emission was identified as being the radio transmission from the EUT and was therefore an intentional transmission not covered by the requirements of the specification.*

Test of: Psion Teklogix.
8530 Venicle Mount Computer.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII, Emissions

7.2.2. Radiated Broadband Emissions - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz): 12V

7.2.2.1. Plots of the initial scans can be found in appendix 4.

7.2.2.2. The following table lists frequencies at which emissions were measured using a quasi peak detector, at a test distance of 1 metre (results incorporate antenna factors and cable losses):

Results:

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Note(s)	Result
45.000	Vert.	14.60	59.50	44.90	-	Complied
45.000	Horiz.	12.10	59.50	47.40	-	Complied
65.000	Vert.	15.70	53.05	37.35	-	Complied
65.000	Horiz.	13.50	53.05	39.55	-	Complied
87.000	Vert.	11.80	54.97	43.17	-	Complied
87.000	Horiz.	10.90	54.97	44.07	-	Complied
120.000	Vert.	16.80	57.08	40.28	-	Complied
120.000	Horiz.	16.60	57.08	40.48	-	Complied
150.000	Vert.	17.70	58.55	40.85	-	Complied
150.000	Horiz.	20.40	58.55	58.15	-	Complied
190.000	Vert.	20.90	60.10	39.20	-	Complied
190.000	Horiz.	20.30	60.10	39.80	-	Complied
230.000	Vert.	18.00	61.36	43.36	-	Complied
230.000	Horiz.	18.80	61.36	45.56	-	Complied
280.000	Vert.	18.00	62.60	44.60	-	Complied
280.000	Horiz.	17.20	62.60	45.40	-	Complied
335.480	Vert.	31.30	63.84	32.54	-	Complied
335.480	Horiz.	31.90	63.84	31.94	-	Complied
380.000	Vert.	22.00	64.60	42.60	-	Complied
380.000	Horiz.	19.90	64.60	45.60	-	Complied
430.000	Vert.	31.40	65.00	23.60	-	Complied
430.000	Horiz.	23.10	65.00	41.90	-	Complied
461.013	Vert.	N/A	N/A	N/A	1	Complied
461.013	Horiz.	N/A	N/A	N/A	1	Complied

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Test of: Psion Teklogix.
8530 Venicle Mount Computer.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII, Emissions

Radiated Broadband Emissions - Electric Field Strength Measurements
(Frequency Range: 30 to 1000 MHz) 12V (Complied)

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Note(s)	Result
527.163	Vert.	35.60	65.00	29.40	-	Complied
527.163	Horiz.	30.20	65.00	34.80	-	Complied
600.000	Vert.	25.30	65.00	39.70	-	Complied
600.000	Horiz.	25.60	65.00	39.40	-	Complied
750.000	Vert.	28.10	65.00	36.90	-	Complied
750.000	Horiz.	28.20	65.00	36.80	-	Complied
900.000	Vert.	31.30	65.00	33.70	-	Complied
900.000	Horiz.	31.20	65.00	33.80	-	Complied

Note(s):

1. *This emission was identified as being the radio transmission from the EUT and was therefore an intentional transmission not covered by the requirements of the specification.*

Test of: Psion Teklogix.
8530 Venicle Mount Computer.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII, Emissions

7.2.3. Radiated Narrowband Emissions - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz): 24V

7.2.3.1. Plots of the initial scans can be found in appendix 4.

7.2.3.2. The following table lists frequencies at which emissions were measured using a peak or an average detector, at a test distance of 1 metre (results incorporate antenna factors and cable losses):

Results:

Frequency (MHz)	Line	Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
45.000	Vert.	15.80	49.60	33.80	-	Complied
45.000	Horiz.	15.10	49.60	34.50	-	Complied
65.000	Vert.	14.20	45.60	33.00	-	Complied
65.000	Horiz.	16.80	45.60	28.00	-	Complied
85.000	Vert.	17.10	44.80	27.70	-	Complied
85.000	Horiz.	15.40	44.80	29.40	-	Complied
120.000	Vert.	19.40	47.10	27.70	-	Complied
120.000	Horiz.	20.80	47.10	26.30	-	Complied
150.000	Vert.	18.90	48.60	29.70	-	Complied
150.000	Horiz.	21.60	48.60	27.00	-	Complied
190.000	Vert.	22.30	50.10	27.80	-	Complied
190.000	Horiz.	22.00	50.10	28.10	-	Complied
230.000	Vert.	48.90	51.40	2.50	1	Complied
230.000	Horiz.	27.20	51.40	24.20	-	Complied
280.000	Vert.	21.00	52.70	31.70	-	Complied
280.000	Horiz.	19.20	52.70	33.50	-	Complied
380.000	Vert.	26.10	54.70	28.60	-	Complied
380.000	Horiz.	21.40	54.70	33.30	-	Complied
450.000	Vert.	47.20	55.00	7.80	-	Complied
450.000	Horiz.	31.10	55.00	23.90	-	Complied
600.000	Vert.	26.30	55.00	28.70	-	Complied
600.000	Horiz.	30.20	55.00	24.80	-	Complied
750.000	Vert.	29.10	55.00	25.90	-	Complied
750.000	Horiz.	32.00	55.00	23.00	-	Complied

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Test of: Psion Teklogix.
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Radiated Narrowband Emissions - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz): 24V (Continued)

Frequency (MHz)	Line	Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
900.000	Vert.	32.20	55.00	22.80	-	Complied
900.000	Horiz.	32.80	55.00	22.20	-	Complied
359.973	Vert.	46.00	54.30	18.30	-	Complied
359.973	Horiz.	38.40	54.30	18.90	-	Complied
461.247	Vert.	N/A	55.00	N/A	2	Complied
461.247	Horiz.	N/A	55.00	N/A	2	Complied
538.034	Vert.	42.10	55.00	12.90	-	Complied
538.034	Horiz.	31.40	55.00	23.60	-	Complied
926.800	Vert.	49.90	55.00	5.10	1	Complied
926.800	Horiz.	52.00	55.00	3.00	1	Complied

Note(s):

1. *The measured result is within the test standard limit by a margin less than the measurement uncertainty; it is therefore not possible to state compliance based on the 95% level of confidence. However, the result indicates that compliance is more probable than non-compliance.*
2. *This emission was identified as being the radio transmission from the EUT and was therefore an intentional transmission not covered by the requirements of the specification.*

Test of: Psion Teklogix.
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To: 95/54/EC: 1995
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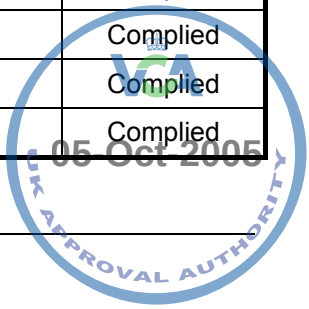
7.2.4. Radiated Broadband Emissions - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz): 24V

7.2.4.1. Plots of the initial scans can be found in appendix 4.

7.2.4.2. The following table lists frequencies at which emissions were measured using a quasi peak detector, at a test distance of 1 metre (results incorporate antenna factors and cable losses):

Results:

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Note(s)	Result
45.000	Vert.	12.70	59.60	46.90	-	Complied
45.000	Horiz.	12.70	59.60	46.90	-	Complied
65.000	Vert.	12.60	55.60	43.00	-	Complied
65.000	Horiz.	14.20	55.60	41.40	-	Complied
85.000	Vert.	14.10	54.80	40.70	-	Complied
85.000	Horiz.	11.70	54.70	43.10	-	Complied
120.000	Vert.	16.70	57.10	40.40	-	Complied
120.000	Horiz.	18.60	57.10	38.50	-	Complied
150.000	Vert.	17.00	58.60	41.60	-	Complied
150.000	Horiz.	17.00	58.60	41.60	-	Complied
190.000	Vert.	20.70	60.10	39.40	-	Complied
190.000	Horiz.	20.90	60.10	39.20	-	Complied
230.000	Vert.	40.10	61.40	21.30	-	Complied
230.000	Horiz.	19.10	61.40	42.30	-	Complied
280.000	Vert.	18.30	62.70	44.40	-	Complied
280.000	Horiz.	17.60	62.70	45.10	-	Complied
380.000	Vert.	21.70	64.70	43.00	-	Complied
380.000	Horiz.	20.30	64.70	44.40	-	Complied
450.000	Vert.	34.70	65.00	30.30	-	Complied
450.000	Horiz.	22.80	65.00	42.20	-	Complied
600.000	Vert.	25.30	65.00	39.70	-	Complied
600.000	Horiz.	25.40	65.00	39.60	-	Complied
750.000	Vert.	28.10	65.00	36.90	-	Complied
750.000	Horiz.	28.50	65.00	36.50	-	Complied



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Radiated Broadband Emissions - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz): 24V (Continued)

Frequency (MHz)	Line	Quasi Peak Level (dBμV)	Limit (dBμV)	Margin (dB)	Note(s)	Result
900.000	Vert.	31.20	65.00	33.80	-	Complied
900.000	Horiz.	31.20	65.00	33.80	-	Complied
359.973	Vert.	41.40	64.30	22.90	-	Complied
359.973	Horiz.	31.00	64.30	33.30	-	Complied
461.247	Vert.	N/A	65.00	N/A	-	Complied
461.247	Horiz.	N/A	65.00	N/A	-	Complied
538.034	Vert.	38.20	65.00	26.80	-	Complied
538.034	Horiz.	27.40	65.00	37.60	-	Complied
926.800	Vert.	48.80	65.00	16.20	-	Complied
926.800	Horiz.	49.40	65.00	15.60	-	Complied

8. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level	Calculated Uncertainty
Radiated Emissions: Electric Field Strength	30 MHz to 1000 MHz @ 1 m	95%	±6.32 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

9. Measurement Methods

9.1. Radiated Narrow Band Emissions: Annex VIII.

These measurements were performed in accordance with the standard, against appropriate limits for narrow band emissions using an average detector.

Initial scans covering the entire band in a shielded enclosure were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which the EUT should be re-measured in full on the open area test site. A peak detector was used in conjunction with the appropriate detector IF measuring bandwidth (see table below), repetitive scans were performed to allow for emissions with low repetition rates, and for the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements on a 1.0 m high non-conducting table, (this table may or may not have an earthed metallic ground plane, depending on the earthing requirements of the EUT). These initial scans were performed with the antenna in both horizontal and vertical polarisations.

All measurements were performed using an antenna height of 1.05 m and a measurement distance of 1.0 m (measured from the table edge to the nearest point of the measuring antenna). Following the initial scans, graphs were produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 10 dB below the reference limit and levels above this were re-tested on the open area test site using a measuring receiver with a peak detector.

For the main (final) measurements the EUT was arranged on a 1.0m high non-conducting table, (this table may or may not have an earthed metallic ground plane, depending on the earthing requirements of the EUT), on an open area test site as detailed in the specification.

All measurements on the open area test site were performed with a broadband antenna.

The test equipment settings for radiated narrowband emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements
Detector Type:	Peak	Peak
Mode:	Max Hold	Not applicable
Bandwidth:	120 kHz	120 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	>1 s
Observation Time:	Not applicable	>15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

9.2. Radiated Broad Band Emissions: Annex VII.

These measurements were performed in accordance with the standard, against appropriate limits for a quasi peak detector.

All measurements were performed with an antenna height of 1.15 m and a measurement distance of 1.0 m (measured from the table edge to the nearest point of the measuring antenna) using a measuring receiver incorporating a quasi peak detector.

The frequencies to be measured were determined by the spot frequencies given in the specification and from the spurious emissions observed during the pre-scan stage of the narrowband emissions test.

For the main (final) measurements the EUT was arranged on a 1.0m high non-conducting table, (this table may or may not have an earthed metallic ground plane, depending on the earthing requirements of the EUT) on an open area test site, as detailed in the specification.

All measurements on the open area test site were performed with a broadband antenna.

The test equipment settings for radiated broadband emissions measurements were as follows:

Receiver Function	Final Measurements
Detector Type:	Quasi Peak
Bandwidth:	120 kHz
Amplitude Range:	20 dB
Measurement Time:	>1 s
Observation Time:	>15 s

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Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.
A1304	N-Type Connector	Narda	370 BNM	0210
A259	Bilog Antenna	Chase	CBL6111	1513
A288	Bilog Antenna	Chase	CBL6111A	1589
A303	50 ohm Termination	Narda	370 BNM	None
A608	5 uH/50 ohm LISN	Rohde & Schwarz	ESH3-Z6	846422/0019
A609	5 uH/50 ohm LISN	Rohde & Schwarz	ESH3-Z6	846422/0020
C160	Cables	Rosenberger	UFA210A-1-1181-70x70	None
C323	Cable	Rosenberger	UFA 210A-1-0788-50x50	96A0121
C347	Cable	Rosenberger	UFA210A-1-1181-70x70	3007
C461	Cable	Rosenberger	UFA210A-1-1182-704704	98H0305
C468	N-Type Coaxial Cable	Rosenberger	UFA210A-1-3937-504504	98L0440
M003	Spectrum Monitor	Rohde & Schwarz	EZM	883 580/008
M044	ESVP Receiver	Rohde & Schwarz	ESVP	891 845/026
M090	Receiver / Spectrum Analyser System	Rohde & Schwarz	ESBI	DU:838494/005 RU:836833/001

NB In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

Appendix 2. Test Configuration Drawings

This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\47590JD01\001	Test configuration for measurement of radiated emissions
DRG\47590JD01\002	Schematic diagram of the EUT, support equipment and wiring harness

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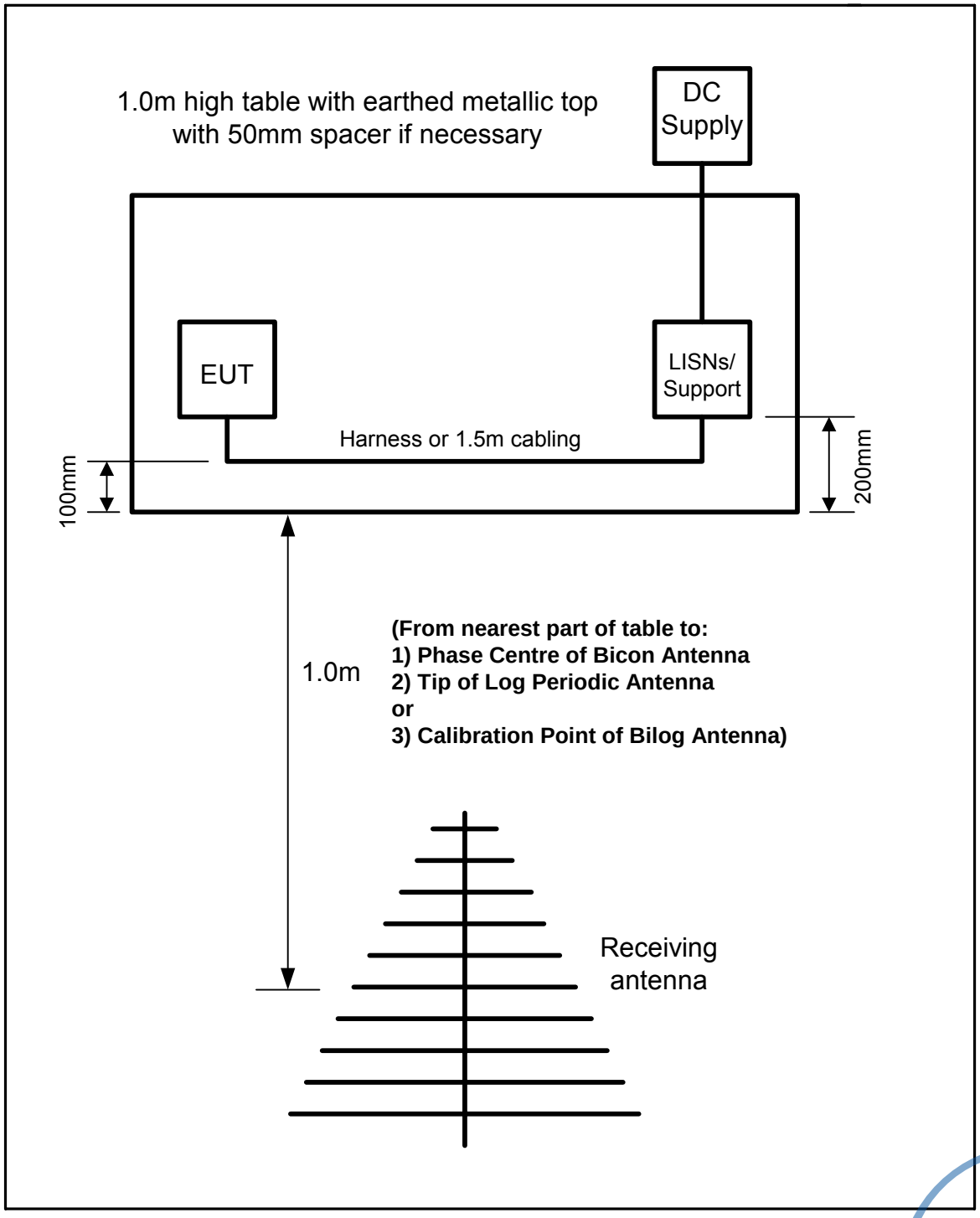
DRG\47590JD01\001



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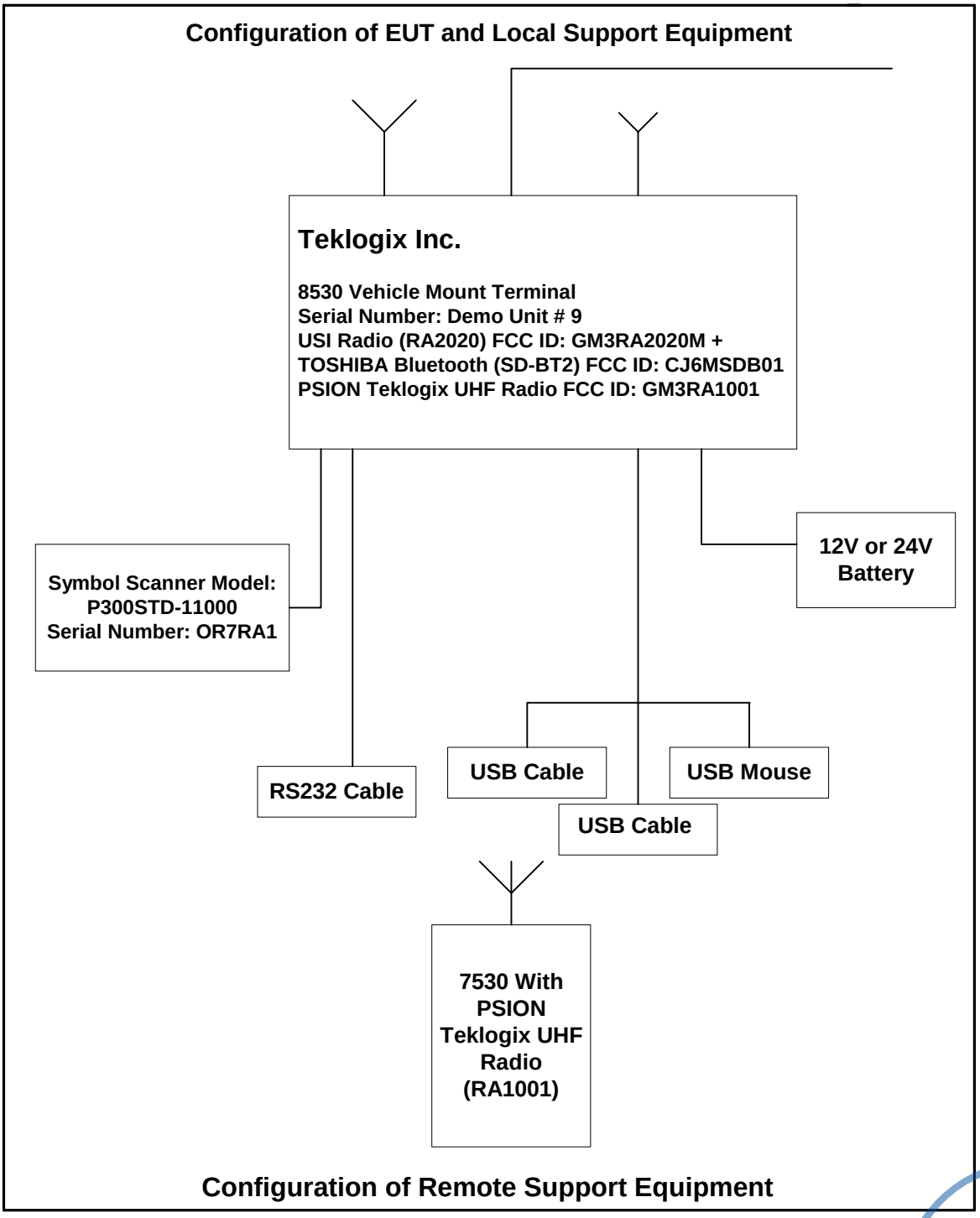
DRG\47590JD01\002



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Appendix 3. Graphical Test Results

This appendix contains the following graphs:

Graph Reference Number	Title
GPH\47590JD01\001	Scan of Radiated Emissions 12V
GPH\47590JD01\002	Scan of Radiated Emissions 24V

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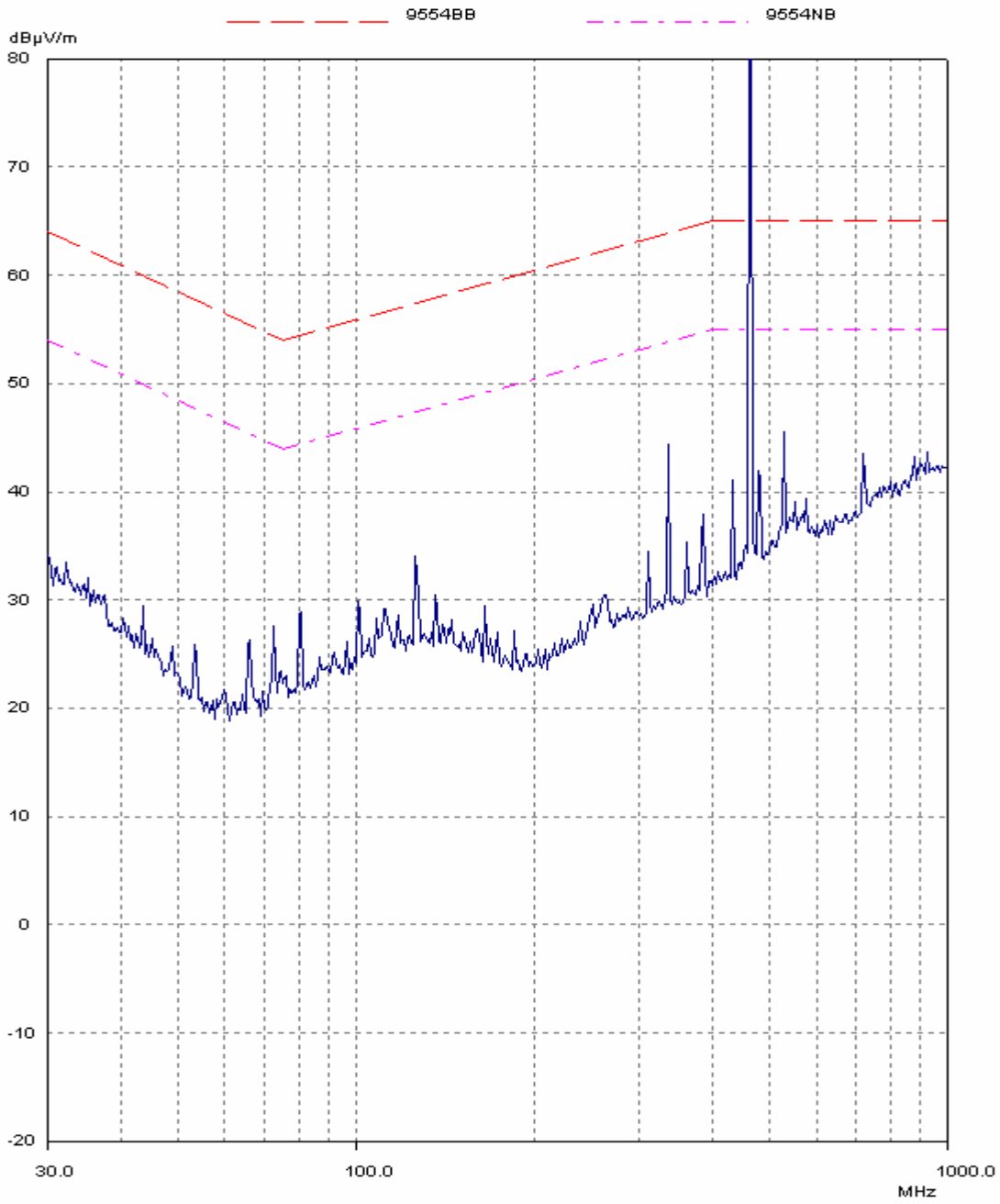
GPH\47590JD01\001
Scan of Radiated Emissions 12V



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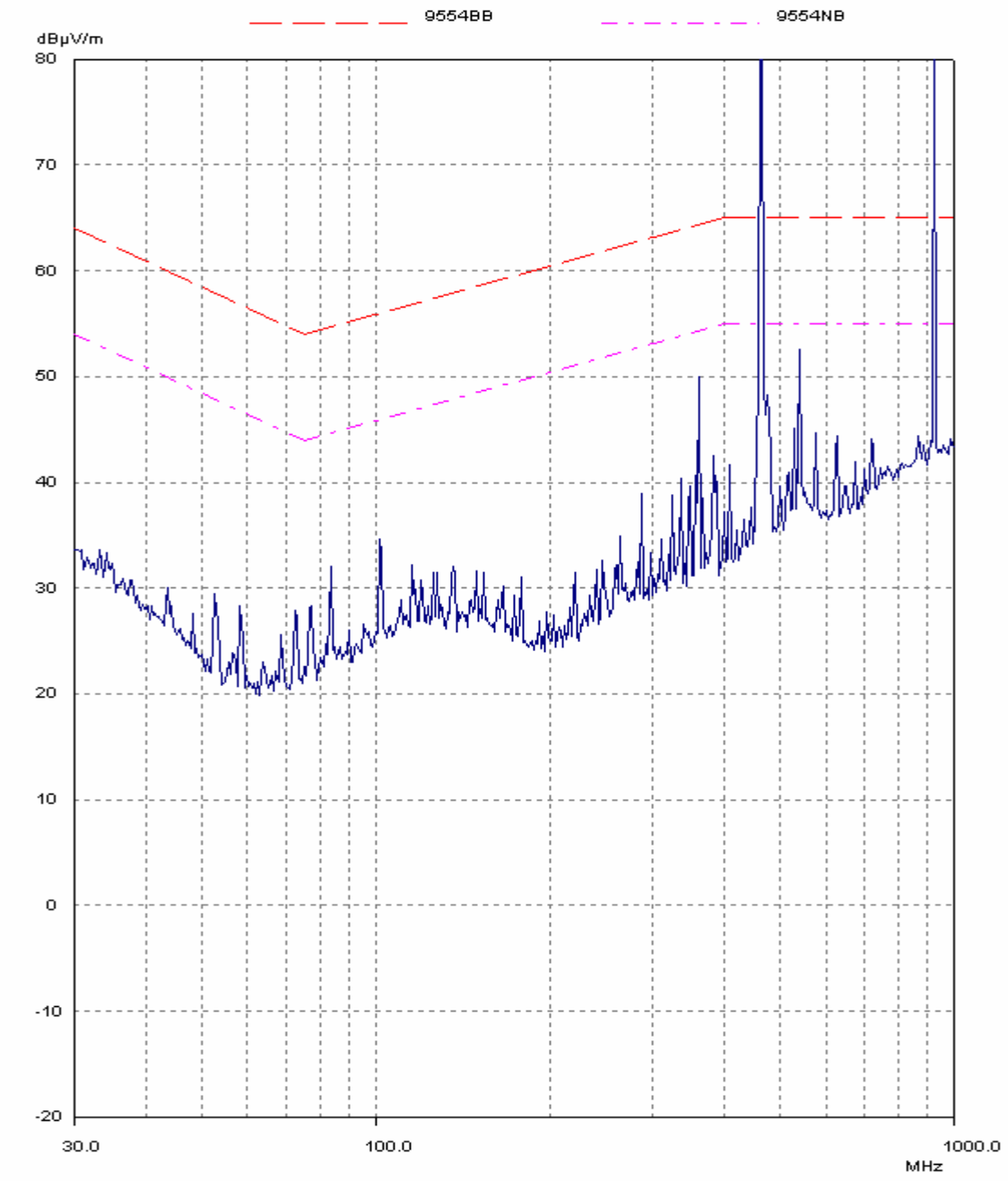
GPH\47590JD01\002
Scan of Radiated Emissions 24V



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Appendix 4. Photographs of EUT

This appendix contains the following photographs:

Photo Reference Number	Title
PHT/47590/001	OATS Setup
PHT/47590/002	OATS Setup 1 of 2
PHT/47590/003	OATS Setup 2 of 2

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PHT/47590/001: OATS Setup

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PHT/47590/002: OATS Setup 1 of 2

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PHT/47590/003: OATS Setup 2 of 2

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